Ontario

2011 Annual Report of the Chief Medical Officer of Health of Ontario to the Legislative Assembly of Ontario

Maintaining the Gains, Moving the Yardstick:

Ontario Health Status Report, 2011

Table of Contents

Transmission Letter	1
Executive Summary	2
Introduction	4
Individual Indicators	
1. Smoking and alcohol use during pregnancy	9
2. Low birth weight	12
3. Healthy child development at school entry	15
4. Immunization coverage of school pupils	18
5. Smoking prevalence	22
6. Overweight and obesity	26
7. Preventable mortality	30
8. Compliance with Canada's Low-Risk Alcohol Drinking Guidelines	33
9. Self-reported positive mental health	37
10. The burden of infectious diseases	40
11. Hospitalizations for falls in seniors	42
12. Life expectancy at birth	44
Conclusions	49
Appendix: Medical Officer of Health and Associate Medical Officer of Health Vacancies	52
References	53

Letter of Transmission

Ministry of Health and Long-Term Care

Chief Medical Officer of Health
Public Health Division
11th Floor, Hepburn Block
Queen's Park
Toronto ON M7A 1R3

Telephone: (416) 212-3831
Facsimile: (416) 325-8412

Ministère de la Santé et des Soins de longue durée

Médecin hygiéniste en chef
Division de la santé publique
Édifice Hepburn, 11e étage
Queen's Park
Toronto ON M7A 1R3

Téléphone : 416 212-3831
Télécopieur : 416 325-8412

Ontario

The Honourable Speaker
Legislative Assembly of Ontario
Room 180, Main Legislative Building
Queen's Park
Toronto, ON M7A 1A2

Dear Speaker:

I am pleased to provide the 2011 Annual Report of the Chief Medical Officer of Health of Ontario for submission to the Legislative Assembly in accordance with the provision of section 81(4) of the Health Protection and Promotion Act.

Yours truly,

Arlene King, MD, MHSc, FRCPC
Chief Medical Officer of Health

Attachment

Executive Summary

What gets measured gets done.

I've talked about the importance of having clear goals and targets for every health benefit we want to achieve and every health problem we want to prevent.

Health indicators are measures of our health and of the factors that affect our health. In my 2010 annual report, I suggested that we need to establish a finite list of indicators that would help to define how healthy we are, and where geography, gender, culture and economic status are contributing to health inequities in our province.

I've also talked about some of the key health challenges of our time – healthy human development, chronic diseases and injuries, and the factors that influence these. I've also talked about how important it is to take new and innovative approaches to addressing these challenges – including working across government and with the health and non-health sectors to take on these issues comprehensively and aggressively.

In this report I've chosen 12 health indicators which can be measured, which could be monitored over time and which address some of these key issues. We've taken a "life course" approach to this report, meaning that these indicators measure some key health issues during the course of our lifespan, and describe how they relate to each other. It offers baseline measurements for these indicators against which progress can be measured over time, and which can be revisited in future reports.

We have much to be proud of in Ontario. We have made significant progress in improving the health of Ontarians: we have worked hard to reduce tobacco use; we have comprehensive, publicly funded immunization programs; we have made significant strides in preventing and managing communicable and infectious diseases;

Why a "Life Course" Approach?

Discussions about health care are often dominated by concerns about access to family physicians and wait times for services such as hip and knee replacements. These are very important issues. However, there are other issues that are equally important such as: how do we support Ontarians to achieve and sustain optimal health and well-being throughout their lives? What does a healthy life look like? How do we improve everyone's health, while considering the particular needs of disadvantaged Ontarians?

Increasingly it is understood that experiences in early life can have an impact on health throughout life. It is also recognized that deprivation and disadvantage can negatively affect one's life course if the appropriate interventions aren't made. As well, it is understood that substance misuse and other unhealthy behaviours can cause immediate health impacts and lead to poor health outcomes further along one's life course.

For all these reasons, and because Ontarians want to live long and healthy lives, I have chosen to take a life course approach to this report. I hope that it will encourage Ontarians to think about the entirety of their health experiences throughout their life, and help them understand that they are connected. What we do and experience today can affect our health, positively or negatively, throughout our lives.

we have made new investments in the public health sector; and we are working to bring more Ontario families and children out of poverty. There is a greater awareness and understanding of the significance of mental illness and of governmental and health sector efforts to promote and maintain good mental health. With all of this said, there is still a significant amount of work to be done:

- For almost all of the indicators that we've chosen, disadvantaged Ontarians bear a disproportionate burden of poorer health, disease and premature death. This reality must be acknowledged and addressed more directly in health policy and health service planning and delivery;
- Negative life trajectories can be improved with the right supports and interventions. This must include addressing the economic, social and environmental determinants of health;
- Modifiable risk factors are exactly that – they can be modified. We must continue to fight the war on tobacco and the significant burden of ill-health from substance misuse, including excessive alcohol use;
- We must continue to advocate for greater understanding and awareness of the burden of mental illness and addictions. We must keep reinforcing the message that there is no health without mental health; and,
- We must keep advocating for and providing public health interventions that have helped to transform the health of populations the world over. These include core public health activities like immunization, drinking water fluoridation and enhanced food safety through interventions such as pasteurization.

In short, we must continue to maintain the gains that we have made while always working to move the yardstick for the sake of all Ontarians. An important way of doing that is to take stock of our progress and identify areas for improvement. There are a number of health status reports with technical indicators available. What distinguishes this one is that it is uniquely about Ontario and comes from the vantage point of the Chief Medical Officer of Health. It doesn't talk about wait times and access to health care services. It talks about health – not health care, and takes a population health approach while highlighting health disparities.

The challenges highlighted by the health indicators chosen are not simple ones to overcome. Continued progress will require the engagement of citizens and *co-ordinated*, government-wide and multisectoral approaches. In many instances, the activities underway related to each of the indicators will need to be identified and aligned "vertically" (at federal, provincial, regional and local levels) and "horizontally" (across the health and non-health sectors). It is only then that we'll be able to identify the full scope and breadth of what is being done to address the challenges, determine if there is any duplication and identify where there may be gaps that could be filled.

Introduction

In my previous annual reports, *Health, Not Health Care – Changing the Conversation*,[1] and *Public Health – Everyone's Business*,[2] I've talked about the health of Ontarians, identified some priority areas for change and action and made the argument that it will require more than the efforts of the public health and health care sectors to effect these changes.

In this report I've chosen priority "health indicators" which relate to areas of particular concern but also to areas where we have made some important gains. This report is slightly more technical than the other annual reports that I have released and is supported with relevant data to describe how Ontario is performing and where there are opportunities for improvement.

What is a health indicator?

A health indicator is a single measure that captures a key dimension of health, such as how many people suffer from chronic disease or have had a heart attack. Indicators can also capture various determinants of health, such as income, or key dimensions of the health care system...

Canadian Institute for Health Information

This report includes a suite of priority indicators that track the "life course" of Ontarians. I have chosen this approach because I want to illustrate that an individual's health, or the health of specific age groups or populations at any given point in their life, is not isolated from challenges or issues that they may have dealt with throughout their life. For example, the most disadvantaged Ontarians tend to experience the poorest health throughout their life course, and experiences of disadvantage and deprivation in early life can resonate throughout one's life and can directly affect health and well-being.

This reality is well understood by many. For example, the public health sector considers addressing issues of disadvantage as being fundamental to its work. In addition, many in the broader health, research and academic community are well versed in the importance of the "determinants of health" and their effect on the health of individuals and populations. It is also important to understand that there are many opportunities along the life course of individuals and populations to change life trajectories – modifiable risk factors for poor health such as smoking, excessive drinking and physical inactivity can be changed. We can also intervene to provide children living in disadvantaged families or communities with the supports that they need to develop and thrive.

In *Public Health – Everyone's Business*, I identified five areas where we simply *cannot* afford not to take action: investing in healthy child development, tackling obesity, investing in the war on tobacco, preventing injuries and reducing health inequities. In *Health, Not Health Care – Changing the Conversation*, in order to address these challenges, I talked about making healthy public policy the focus of everything we do, and of applying a "health lens" to every program and policy we implement at provincial, regional and local levels. In this report, I return to some of the key themes from those reports, the efforts that have been

Fighting the old foes while moving forward

One of the challenges that the public health sector faces is that we must maintain the gains in public health while also trying to address new and emerging health issues.

Public health successes such as immunization, improved tobacco control, drinking water fluoridation and improved food safety through pasteurization are constantly challenged. I would like to commend my public health colleagues who work every day to maintain the gains that we have made while trying to move the yardstick – addressing the emerging health concerns of this century.

made to address them, the successes that we've had and why we must continue to focus on maintaining the gains while "moving the yardstick."

For example, the public health sector has had a key role to play in some of the major successes we've had in advancing our health status. These have included: immunization, tobacco control, drinking water fluoridation and the prevention and management of infectious diseases. As Chief Medical Officer of Health for Ontario, a key part of my role is advocating for public health interventions that have transformed the lives of people in Ontario and all over the world.

Ministry of Health and Long-Term Care Action Plan for Health Care

I am very encouraged by the Ministry of Health and Long-Term Care's Action Plan for Health Care. The Action Plan includes a strong focus on keeping Ontarians healthy, rather than just on treating illness and disease once they occur.

I believe that the plan provides some unique opportunities to highlight issues of public health concern as well as the unique contribution that the public health sector can make to improve the health of all Ontarians.

In addition to the goals and targets included in the Action Plan, and as discussed in my 2010 annual report *Health, Not Health Care – Changing the Conversation*, I believe that Ontario needs to settle on a finite set of goals, targets and health indicators to enable us to measure our progress.

For instance, my hope for Ontario is that:

- babies are born healthy;
- pre-school children are able to achieve their potential;
- children and young people are healthy and equipped for adulthood;
- working adults live longer, healthy lives; and
- seniors are able to enjoy a healthy retirement.

To assess how well we are doing to achieve these goals, I have identified health indicators for mothers and babies, children and youth, adults and seniors. Each indicator relates to one of the priority themes that I've discussed in previous reports such as: investing in healthy human development, preventing injuries and chronic diseases and reducing health inequities. The report also includes indicators that address the prevention and management

of infectious diseases, as this is a key area of focus for public health and because the burden of infectious diseases is considerable. It also includes some discussion of mental health and the importance of good mental health to achieving and maintaining health and well-being at every life stage.

Strategic plan for the public health sector

I am currently leading work to develop a strategic plan for the public health sector in Ontario. I will be releasing the plan through a special report in spring 2013.

The priority areas for action identified in the plan will be consistent with many of the issues that I raise in this report. I anticipate that the strategic plan will address well established priority areas of concern for public health, including how to harness efforts to prevent chronic diseases, limit the burden of infectious diseases and increase the impact of the public health sector through stronger collaborations with the health care and non-health sectors. The plan will also consider new and emerging issues and challenges and identify strategies to align the efforts of the public health, health care and other sectors in addressing them.

Criteria used to select the report indicators

Five criteria were used to select the indicators included in this report. The indicators chosen had to be:

Criteria for indicators included in this report	
1	Worth measuring
2	Understandable by the public
3	Actionable
4	Credible
5	Measurable

(1) **worth measuring** – that is, they had to address an important issue, worth discussing and measuring. We also considered if they were relevant to a life course discussion.

(2) **understandable by the public** – we've made an effort to choose indicators that will be meaningful to the public and not just to a more specialized health care audience.

(3) **actionable** – the indicators chosen have implications for government and health sector policy and practice. This also means that government and health sector policy and practice have the potential to influence the issues that the indicators highlight.

(4) **credible** – the indicators must be appropriately defined, explained and supported by credible, relevant and appropriate data.

(5) **measurable** – for each indicator we considered, we had to assess whether we could measure it and whether there were reliable, good quality data available.

Key roles for measurement

Indicators can be used in three broad ways:

- for *understanding*; to know how specific systems (the health care system, government systems) work and how they can be improved;
- for *monitoring performance*; to monitor if and how a system is performing to an agreed standard; and
- for *accountability*; allowing governments and organizations to hold themselves accountable to the public, to patients and to funders.[3]

Indicators are not only used to identify problems – they identify achievements and progress as well. It's important to understand that many of the challenges that I identify in this report can be addressed through short-term efforts, while others will require long-term commitments and investments.

Analytical approach to the indicators

This report includes 12 indicators. Each indicator is discussed in terms of its significance to the health of Ontarians and why it is important from a life course perspective. Differences by sex and age group, as well as differences related to socioeconomic status are discussed. I also discuss many of the indicators as they relate to First Nations, Inuit and Métis Ontarians (FNIM).

For each indicator, I identify opportunities for improvement. The report advises on activities underway to address the indicator, but does not contain a comprehensive inventory of every government, health care or public health sector effort related to that indicator.

A note about the data in this report

Data included in this report were gathered and/or analyzed from a number of existing sources. New analysis for Ontario was carried out as noted below:

- Maternal risk factors*
- Low birth weight
- Healthy child development at school entry**
- Smoking prevalence*
- Overweight and obesity*
- Preventable mortality
- Compliance with low-risk drinking guidelines*
- Self-reported positive mental health*
- Hospitalizations for falls in seniors

The appendix to the report provides technical information about the data, including: sources, limitations and further explanatory notes. It is important to note that some of the numbers may not be exactly the same as those included in other reports (such as, for example, the Initial Report on Public Health or other immunization coverage reports). This is related to a number of factors such as differences in definition, timeframe or data completeness on a specific access date.

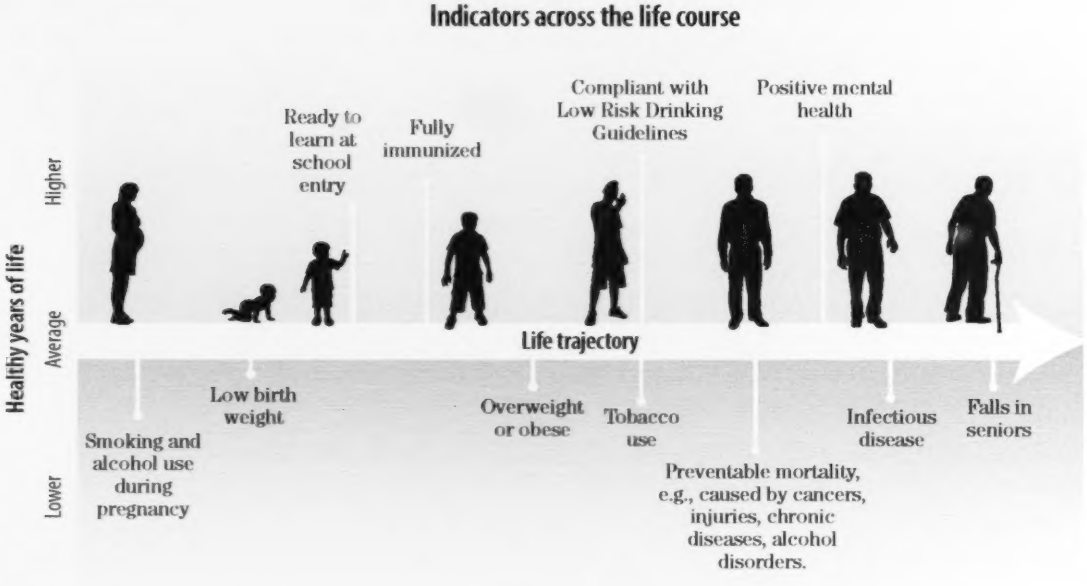
**New analysis for both Ontario and Canada*
***New analysis for Ontario*

World Health Organization Definition of Health: Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.

Report indicators

Life trajectory diagram

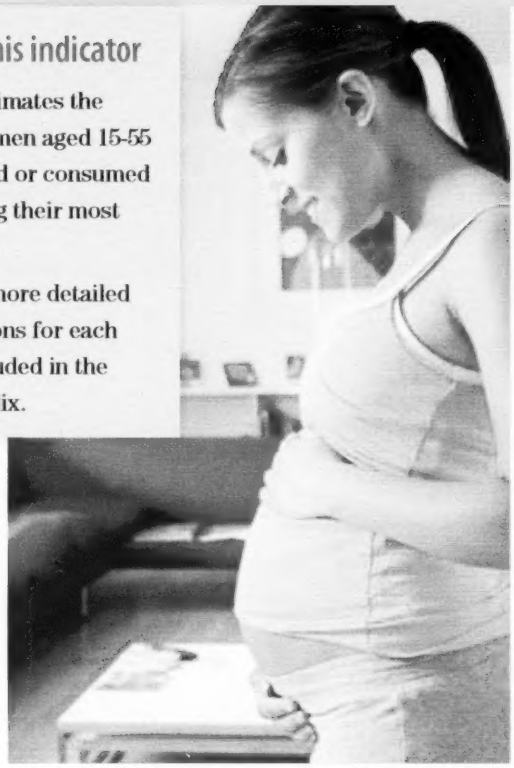
This diagram represents a healthy life trajectory and a less healthy life trajectory relative to some of the indicators in the report. It is intended to illustrate the impact of the indicators on the life course of Ontarians.



Definition of this indicator

This indicator estimates the proportion of women aged 15-55 years who smoked or consumed any alcohol during their most recent pregnancy.

Please note that more detailed technical definitions for each indicator are included in the Technical Appendix.



1. Smoking and alcohol use during pregnancy

Why this indicator is important and what it measures

Prenatal smoking and alcohol use are modifiable health risk behaviours that can have a negative effect on the health of both mother and baby. This indicator is very meaningful from a life course perspective. There is a body of evidence that demonstrates that exposure to smoking and alcohol use before birth can have short-, mid- and long-term negative health effects on children. The effects of these exposures can constitute a "precursor" risk for babies that can result in negative health outcomes throughout their life course.

In the 2010 report *Growing Up In BC,*[4] Chief Public Health Officer Dr. Perry Kendall and the B.C. Representative for Children include "risky maternal behaviours" such as smoking and alcohol use as a key indicator.

The report states that: "Maternal smoking adversely affects growth in-utero and during infancy. Short-term health impacts associated with maternal smoking include increased rates of miscarriage, preterm birth and Sudden Infant Death Syndrome (SIDS). The longer-term health impacts associated with maternal smoking can include higher risk of ear and respiratory infections, asthma and learning difficulties. Adverse outcomes associated with prenatal alcohol exposure can include hearing and vision problems, slow growth and brain damage resulting in lifelong problems with memory, attention, reasoning and judgment. In Canada, Fetal Alcohol Spectrum Disorder is known to be a major cause of developmental disability." Maternal smoking and alcohol use are also linked to low birth weight and low birth weight is correlated with an increased risk of death throughout the life course.

The 2011 Public Health Agency of Canada report *Early Primary School Outcomes*[5] addresses educational and other outcomes of Canadian children who experienced exposure

to tobacco and/or alcohol in-utero. The report concludes that maternal drinking and tobacco use during pregnancy predicted that a child will have problems in school, even when taking into account later smoking and drinking behaviour by the child's parents. It also concluded that these effects could compromise children's academic and social behaviour into early adolescence.

Efforts to address maternal smoking and alcohol use

In Ontario there have been a number of efforts aimed at addressing maternal smoking and alcohol use. These include primary prevention efforts by family physicians, and public education and other interventions by the public health sector to promote healthy pregnancy and prevent smoking and alcohol use by pregnant women. There have also been efforts linked to Smoke Free Ontario to promote smoking cessation in the Ontario population overall.

The Ontario Data

About five per cent of women in Ontario reported consuming alcohol during their most recent pregnancy when asked in 2007/2008. This is a significant decrease from the 10 per cent of women who reported this in 2003 and 2005. Eight per cent of women aged 15 to 55 years in Ontario reported smoking during their most recent pregnancy when asked in 2009/2010. This is a significant decrease from the 12 per cent of women who reported this in 2003.

Women living in neighbourhoods in the lowest neighbourhood socioeconomic group were more likely to report smoking during their last pregnancy (16 per cent) compared to those living in neighbourhoods in the highest socioeconomic group (four per cent) as defined using the material deprivation dimension of the Ontario Marginalization Index.* When comparing lowest and highest quintiles of neighbourhood average income, results follow a similar pattern (11 per cent compared to five per cent).[6]

Those women aged 25 and older with less than secondary school graduation were more likely to report smoking during their last pregnancy (22 per cent) compared to those with post-secondary graduation (four per cent).

Those women living off-reserve who identified themselves as First Nations, Inuit or Metis (FNIM) were more likely to report smoking during their last pregnancy (34 per cent), compared to those who did not identify themselves as FNIM (seven per cent).

**Data from the Ontario Marginalization Index (ON-Marg) have been used for several of the indicators in this report. ON-Marg is a census and geographically-based index that can be used for planning, needs assessment, resource allocation, monitoring of inequalities and research.*
ON-Marg includes data that illustrate differences between areas, and helps to identify inequalities in various measures of health and social well-being, either between population groups or between geographical areas.

How Ontario compares with other jurisdictions

Women in Ontario were less likely to report smoking during their most recent pregnancy (10 per cent) compared to the Canadian average (13 per cent) in 2005, the most recent year for which national comparisons were available.

There has been a little change in maternal alcohol consumption during pregnancy in Canada. According to the Canadian Community Health (CCHS) survey, the rate of Canadian mothers who reported drinking any alcohol during pregnancy was 12 per cent in 2000-2001, 12 per cent in 2003 and 10 per cent in 2005. This percentage includes all mothers who reported drinking, regardless of amount and frequency.[7]

Opportunities for improvement

Despite efforts to address maternal smoking and alcohol use, this issue continues to be of serious concern. The good news is that the percentage of Ontario women who report smoking and/or drinking during pregnancy appears to be low and is declining. The challenge is that there remain widely reported differences in sub-populations. Additionally, as these are "self-reported" data on negative behaviours, individuals may be reluctant to report them; this could underestimate the true magnitude of the problem.

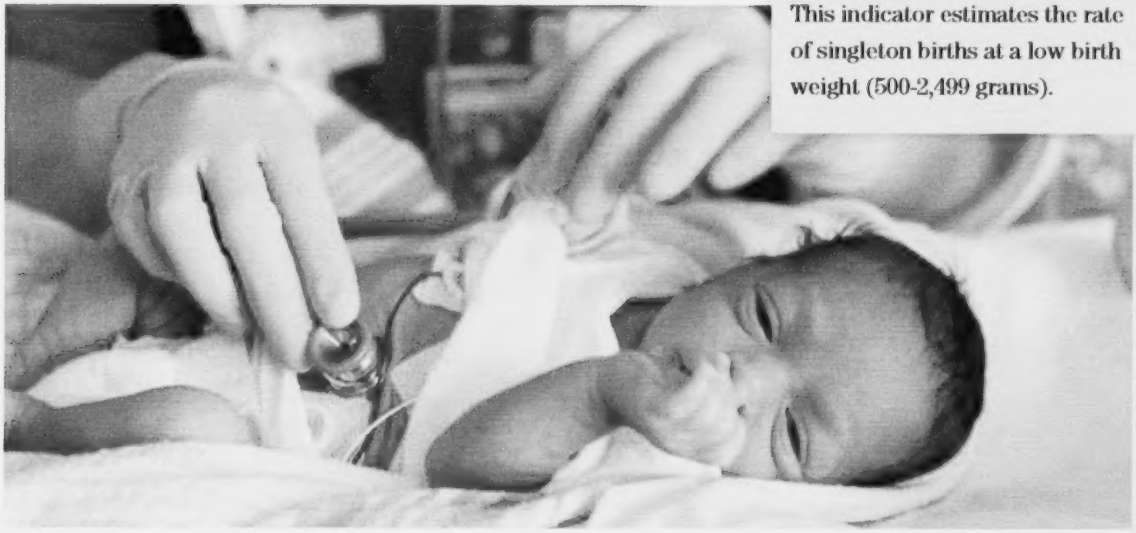
In October 2010 I issued a statement following the release of a key report by the Tobacco Strategy Advisory Group. At that time I stated: "The babies of mothers who smoke throughout pregnancy are at an increased risk, before and after birth, of many conditions including premature birth, sudden infant death syndrome and respiratory problems, such as asthma and reduced lung function."

I am encouraged by specific commitments related to reducing tobacco use in the ministry's Action Plan for Health Care which states that: "We are determined to have the lowest smoking rates in Canada, and we will continue expanding our efforts to reach this goal. To help more Ontarians quit smoking, we have recently listed smoking cessation drugs on the Ontario Drug Benefit formulary, and expanded access to nicotine replacement therapies for those undergoing addiction treatment. We will increase fines on those who sell tobacco to children and we will continue to build on our contraband strategy by doubling enforcement efforts."[8]

I also would like to see more efforts made to address maternal smoking and alcohol use in disadvantaged groups, including Aboriginal and First Nations women. An initial step would be to clearly acknowledge that the impact is greater for disadvantaged women, including Aboriginal and First Nations women, and to set concrete goals, supported by concrete investments.

Definition of this indicator

This indicator estimates the rate of singleton births at a low birth weight (500-2,499 grams).



2. Low birth weight

Why this indicator is important and what it measures

Low birth weight is an important indicator from a public health perspective. Babies born at a low weight have a higher risk of death in infancy and are more likely to experience a range of health and developmental challenges. Low birth weight is also important because it tends to occur more in disadvantaged populations.[9,10]

Risk factors for low birth weight include: socioeconomic disadvantage, poor health and nutrition during pregnancy, smoking while pregnant, consuming drugs or alcohol during pregnancy and experiencing abuse while pregnant. Efforts to address these risk factors can have a protective effect.

A note about "singleton" births

This indicator only includes "singleton" births, meaning it does not include those babies born in multiple births such as twins or triplets. In some developed countries, rates of low birth weight can be caused by factors other than those that this indicator is intended to directly address such as the use of fertility treatments, specific clinical interventions around birth and older age of mothers at birth. This indicator is intended to focus primarily on low birth weight associated with the risk factors noted above.

Efforts to prevent low birth weight

Ontario has made a number of efforts to prevent low birth weight and to address the risk factors associated with it. This has included public health programming to promote healthy pregnancies; provincial efforts to address poverty, including the Poverty Reduction Strategy; other efforts to prevent substance misuse in pregnancy; Smoke Free Ontario, including smoking cessation supports; the Best Start Program; and education and awareness to prevent domestic violence during pregnancy.

The Ontario data

In 2011, 48 singleton babies per 1,000 births (a total of 6,460 singleton babies) were considered low birth weight. Rates of low birth weight were higher in female than male babies, with 51 female low birth weight babies per 1,000 singleton births compared to 47 male low birth weight babies per 1,000 for singleton births.

Additionally, geographic areas with the highest level of neighbourhood material deprivation had higher rates of low birth weight babies (60 per 1,000 singleton births) compared to areas with the lowest level of neighbourhood material deprivation (which is 43 per 1,000 births). Other measures of socioeconomic status also showed a similar relationship with low birth weight rates. For example, in neighbourhoods with lower average incomes and higher residential instability (such as those areas where residents have recently moved), the rate of low birth weight babies also was higher. However, as illustrated in the table below, the rates for the overall population have remained relatively stable in the last five years.

Singleton Births in Ontario from 2007-2011

Year	Both sexes combined			Male babies			Female babies		
	Singleton babies 500-2,499 grams	Singleton babies 500+ grams	LBW/ 1,000 births	Singleton babies 500-2,499 grams	Singleton babies 500+ grams	LBW/ 1,000 births	Singleton babies 500-2,499 grams	Singleton babies 500+ grams	LBW/ 1,000 births
2007	6,492	136,037	47.7	3,174	69,557	45.6	3,318	66,480	49.9
2008	6,554	136,315	48.1	3,241	69,904	46.4	3,313	66,411	49.9
2009	6,498	135,580	47.9	3,162	69,624	45.4	3,336	65,956	50.6
2010	6,602	133,509	49.4	3,130	68,550	45.7	3,472	64,959	53.4
2011	6,460	133,237	48.5	3,174	68,256	46.5	3,286	64,981	50.6

Source: Inpatient Discharges (Data Years 2003-2011), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO, extracted September 4, 2012.
Excludes babies born weighing less than 500 grams due to data quality issues.

How Ontario compares with other jurisdictions

In 2010, when considering all low birth weight babies (both singleton and multiple births), Ontario, Newfoundland and Labrador, Alberta, Yukon and Nunavut had low birth weight rates above the national average.[11]

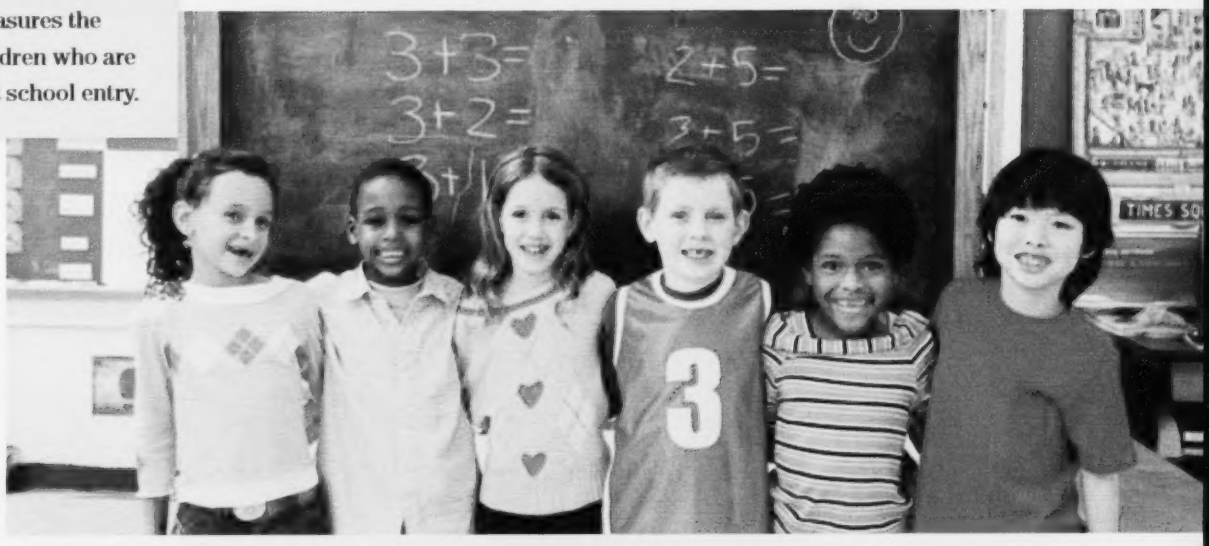
Opportunities for improvement

As well as my comments related to maternal smoking and alcohol use which are also relevant to this indicator, I would like to see more concerted efforts to address the other modifiable risk factors for low birth weight, especially among disadvantaged women. There also needs to be a cross-jurisdictional inventory of efforts aimed at reducing low birth weight babies, as efforts are unfocused.

I would also like to see more efforts to understand and address both low and high birth weight in Aboriginal and First Nations populations, as well as initiatives to improve the health of Aboriginal and First Nations mothers and babies. Although this indicator focuses on low birth weight, it is important to acknowledge that high birth weight is also an issue in certain populations, including FNIM.

Definition of this indicator

This indicator measures the percentage of children who are "ready to learn" at school entry.



3. Healthy child development at school entry

Why this indicator is important and what it measures

This indicator measures a child's developmental health and readiness to succeed when he/she starts school. It is based on the Early Development Instrument (EDI), which is administered in Senior Kindergarten in Ontario. The EDI helps to paint a multi-faceted picture of children's life experience and development up to the point of school entry because it measures multiple dimensions of their development and experiences, all of which contribute to their readiness to learn.

The instrument measures:

- physical health and well-being
- social competence
- emotional maturity
- language and cognitive development and
- general knowledge and communication skills.

Children are more likely to succeed socially and academically if they are ready to learn when they begin school. This indicator is meaningful from a life course perspective because it addresses a key life milestone and a variety of health, social and environmental factors that can affect a child's ability to succeed at this critical life stage. In addition, there is evidence that demonstrates that a child's development and readiness to succeed at school entry can affect later life outcomes.

Efforts to improve healthy child development at school entry

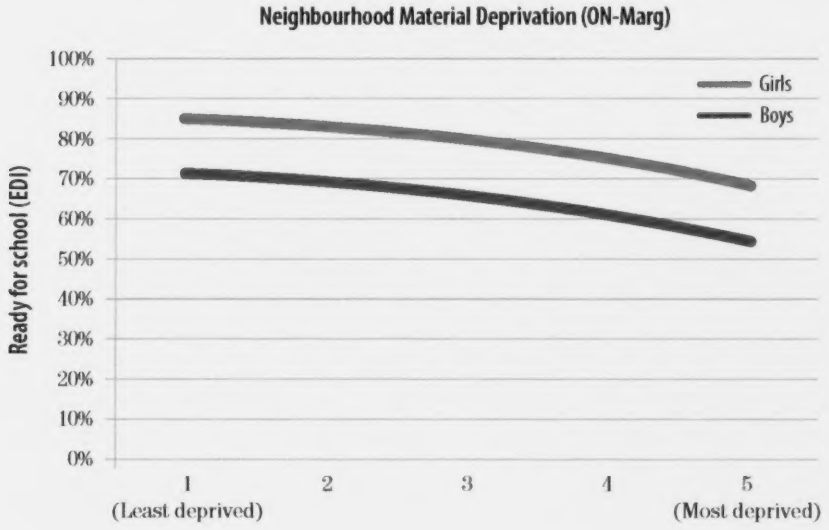
School readiness is included as an indicator in the Poverty Reduction Strategy and Ontario has reported on this indicator through the strategy. Between 2007 and 2009, 71.5 per cent of children surveyed showed no vulnerabilities. In this context, vulnerability is understood to refer to children who, without additional support and care, may experience future challenges in school and society. This means that most children in Ontario are doing well; however, there are some children who may need additional supports to learn and succeed at school.[12]

There are numerous services and supports in place across Ontario to support healthy child development prior to school entry. Parent and child development programs play an important part in supporting children to get the best possible start in life. As noted, the Poverty Reduction Strategy includes healthy child development at school entry as an indicator and acknowledges the effects of a child's economic and social circumstances on their development, health and likelihood of academic success. Together, programs such as Healthy Babies, Healthy Children, the Ontario Early Years Centres, the Infant Hearing Program, the Preschool Speech and Language Program and the Infant Development Program offer a range of parental supports, screening, assessment and treatment services to help children succeed in school and in life.

The Ontario data

For 2010-2012, 72 per cent of Ontario children were ready for school; i.e., they showed no vulnerability in the domains measured by the EDI. Seventy-nine per cent of girls were ready for school and 66 per cent of boys were ready. Girls tend to be more ready for school than boys at school entry. However, similar to other indicators that I've discussed, when we consider neighbourhood deprivation, children in more materially deprived neighbourhoods tended to be less ready to learn at school entry.

School readiness by neighbourhood material deprivation



This chart illustrates school readiness by neighbourhood material deprivation (1 = least deprived, 5 = most deprived). It demonstrates that children in the most deprived neighbourhoods are less likely to be ready to succeed at school entry than those in less deprived neighbourhoods.

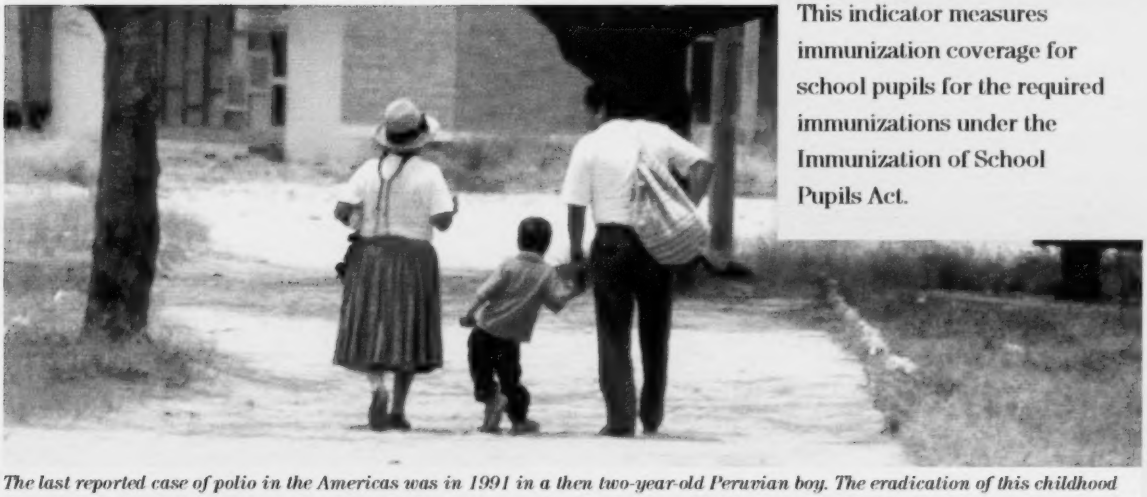
Opportunities for improvement

Ontario has made significant strides as well as considerable investments in healthy child development. From 2008 to 2009, the first year of the Poverty Reduction Strategy, 20,000 children moved out of poverty. This represents a decrease of over four per cent in the number of children living in poverty. I am very encouraged by these developments. I also am encouraged by the introduction of full-day kindergarten in Ontario.

However, as significant public funds are being invested to promote healthy child development, an inventory of existing initiatives and a robust evaluation of their effectiveness are needed. Creating an integrated and comprehensive program from existing efforts across government would enhance our ability to maintain the gains and move the yardstick on this important indicator. It also would enable us to identify where there are gaps in programming. An integrated, all-of-government programmatic approach would identify developmental and other outcomes to be achieved through the combined efforts of multiple ministries, including Health and Long-Term Care, Children and Youth Services, Education and Community and Social Services.

Definition of this indicator

This indicator measures immunization coverage for school pupils for the required immunizations under the Immunization of School Pupils Act.



The last reported case of polio in the Americas was in 1991 in a then two-year-old Peruvian boy. The eradication of this childhood disease from the Americas was only achieved following a massive vaccination effort launched in 1985 by the Pan American Health Organization (PAHO) and culminating in 1994 when an international commission certified that the Americas was polio-free. Source: www.paho.org.

4. Immunization coverage of school pupils

Why this indicator is important and what it measures

Immunization is one of the most important and cost-effective public health interventions in recent history. Because of widely available, effective vaccines, children in Ontario no longer suffer from many of the vaccine preventable diseases of the past.

This indicator measures "coverage" for school pupils against the core set of immunizations that are required for school attendance under the Immunization of School Pupils Act, namely tetanus, diphtheria, polio, measles, mumps and rubella. Coverage means the percentage of a specific group that has received the required immunizations against a disease.

In Ontario, public health units monitor the immunization status of school pupils as required under the Immunization of School Pupils Act (ISPA) to ensure that pupils who do not have a valid exemption are up to date with required immunizations and can remain in school.

Ontario continues to make significant investments in provincial immunization programs as fundamental and highly cost-effective public health interventions. However, many of the vaccine preventable diseases that we have eliminated in Canada are no longer top of mind; furthermore, they are often so rare that they are not recognized by health care providers or parents. Additionally, anti-immunization efforts have gained strength and both the public and providers require education on the benefits of immunization to the health of all Ontarians. Immunization is one of the key areas of public health practice in which it is critical that we maintain the gains while moving the yardstick to achieve better immunization coverage. We continue to experience challenges related to uptake of many vaccines even in the context of universal availability and improving delivery infrastructure. It is absolutely critical that public health messages about the importance of immunization as a life-saving preventive intervention are continually reinforced.

The Ontario data

Ontario continues to achieve relatively high coverage rates for mandated vaccines but we are not achieving the coverage rates that I would like to see for *all* provincially funded vaccines. Ontario's immunization system incorporates a range of delivery settings including primary care, hospitals, long-term care homes, public health clinics, schools and pharmacies. The bulk of immunizations occur in childhood and/or infancy, with additional immunizations being provided to school-age children and others to adults. In Ontario, provincially funded vaccines are procured (either through collaboration with other provinces/territories and/or Public Works and Government Services Canada or directly by the government of Ontario) and provided free of charge to practitioners and/or organizations that administer them. This represents a multi-million dollar provincial investment.

The effectiveness of provincial immunization programs as well as how to ensure the best return on investment continue to be significant concerns. For example, we continue to experience suboptimal coverage with both our influenza and Human Papillomavirus (HPV) immunization programs.

Immunization Coverage for 2010 -2011 School Year

Immunization coverage in Ontario for vaccines started in infancy and early childhood among children 7 and 17[1] years old, 2010/11 school year

	Antigen	7-year-olds (2003 birth year)	17-year-olds[1] (1993 birth year)
Diseases designated under the ISPA	Diphtheria	81.1%	83.0%
	Tetanus	80.9%	83.5%
	Polio	80.4%	93.2%
	Measles[2]	86.2%	94.2%
	Mumps[2]	85.8%	92.0%
	Rubella[3]	95.0%	96.6%

Source: Immunization Records Information System (IRIS)

Notes:

1. Coverage estimates for 17-year-olds exclude data from Eastern, Halton, Lambton and Middlesex-London health units as these data were archived and unavailable for analysis.

2. Coverage for 2-doses of measles and mumps-containing vaccines is presented, as per the publicly funded schedule for Ontario and National Advisory Committee on Immunization (NACI) recommendations.

3. Coverage for at least 1 dose of rubella-containing vaccine, as per National Advisory Committee on Immunization (NACI) recommendations, is presented.

The Immunization of School Pupils Act (ISPA) requires local medical officers of health to maintain a record of immunization for each pupil attending school in their jurisdictions, and requires parents of school pupils to ensure their children are vaccinated against these diseases unless a valid medical exemption or statement of religious or conscientious objection is provided. Both seven- and 17-year-olds are included in this table to demonstrate trends in coverage – demonstrated here in two age cohorts.

How Ontario compares with other jurisdictions

Canada's national immunization coverage rates are not optimal, leaving those who are not immunized vulnerable to vaccine-preventable diseases such as measles, mumps and whooping cough (pertussis). To prevent and control vaccine-preventable diseases, overall immunization coverage rates should be over 90 per cent. The World Health Organization has stated that all countries should have achieved a 90 per cent national immunization coverage rate by 2010.

A 2006 Government of Canada report set a 2010 target immunization coverage rate for two-year-olds at:

- 95 per cent for pertussis (whooping cough);
- 85 per cent for varicella (chicken pox);
- 97 per cent for rubella (German measles);
- 90 per cent for pneumococcal conjugate; and
- 97 per cent for meningococcal C conjugate vaccines.

A sampling of results from the National Immunization Coverage Survey (from 2006) shows that only 61 per cent of two-year-olds and 41 per cent of seven-year-olds were up to date for the National Advisory Committee on Immunization (NACI) recommended number of doses for the combination of DTaP-IPV-Hib and MMR vaccinations (for diphtheria, tetanus, polio, measles, mumps and rubella) by their second and seventh birthdays, respectively.[13]

The Organization for Economic Cooperation and Development (OECD) reports immunization rates for diphtheria-tetanus-pertussis and measles only and it is important to note that this may not be directly comparable to the Ontario data and analysis noted above. The proportion of one- or two-year-old Canadians having received three doses of the diphtheria-tetanus-pertussis vaccine in 2010 was 80 per cent. The range across the OECD countries reporting this data (n=34) was 80 per cent to 99 per cent, with a median rate of 96 per cent. For measles, the proportion of one- or two-year-old Canadians having received one dose of the vaccine was 93 per cent in 2010, with a range of 76 per cent to 99 per cent for OECD countries reporting this data (n=31) and a median rate of 95 per cent.[14]

Efforts to improve immunization coverage

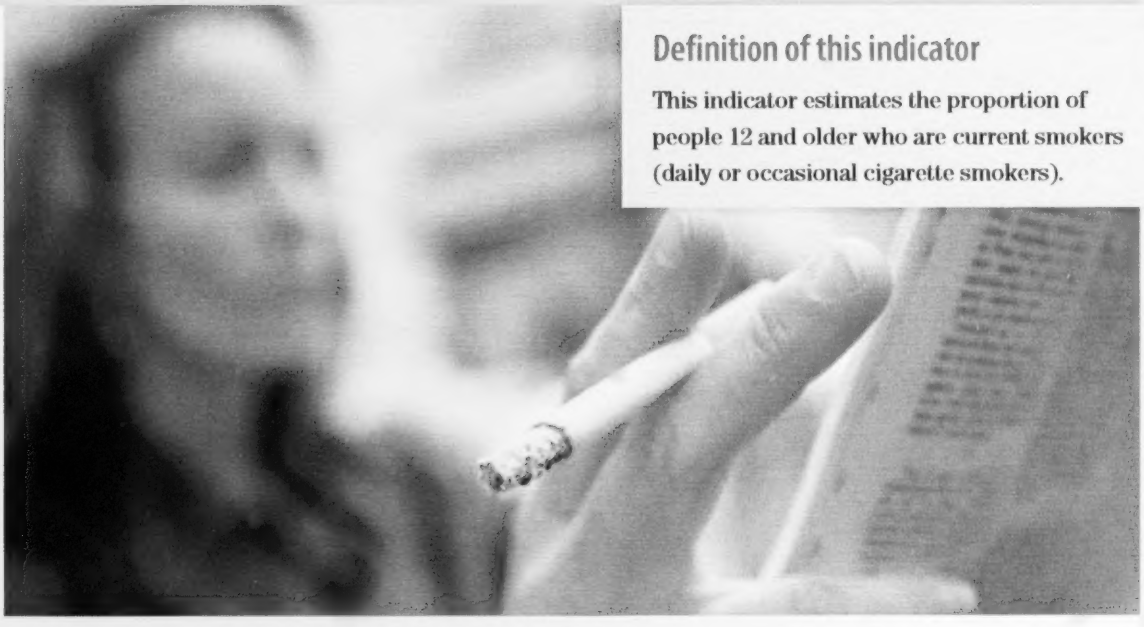
The ministry continues to make significant investments in immunization including: providing funding to public health units to support vaccine preventable diseases programming; provincial communications and public awareness campaigns; and vaccine procurement and payments to health care practitioners for the administration of vaccines, including specific incentives to promote immunization as a key primary prevention intervention. Primary care physicians in Ontario are eligible for incentive payments for specific preventive services/interventions, including influenza and childhood immunizations.

The ministry also has made continuous improvements to Ontario's immunization programs through the addition of new vaccines including: the rotavirus oral vaccine for infants 6-24 weeks of age; adding a second dose of chicken pox vaccine for children age 1-11 years of age; and making a whooping cough booster vaccine available for adults aged 19-64 years of age. Starting in September 2012, girls in Grades 9-12 who didn't receive or didn't complete the three-dose HPV immunization in Grade 8 can now receive the vaccine free of charge until the end of Grade 12. Girls who were in Grade 8 during the 2007/2008 school year are also offered the vaccine as part of a one-time catch-up program available till June 30, 2013. These eligible girls would have been born in 1993 or 1994. The ministry has also made recent amendments to expand the scope of practice of pharmacists to allow them to administer flu vaccine as part of the Universal Influenza Immunization Program (UIIP). As of October 22, 2012 Ontarians over the age of five were eligible to visit a local participating pharmacy to receive a flu shot as part of the Universal Influenza Immunization Program.

Opportunities for improvement

Immunization continues to be a key priority and I will continue to advocate for immunization as one of the most important public health achievements, historically and currently.

With all of these considerations in mind, I have initiated an immunization system review in Ontario. Under the leadership of an expert advisory committee, we are reviewing all aspects of provincial immunization programs to identify areas for improvement in delivery and uptake. I am looking forward to the results of this work and I anticipate that it may inform some priority areas to be identified in the Public Health Sector Strategic Plan.



Definition of this indicator

This indicator estimates the proportion of people 12 and older who are current smokers (daily or occasional cigarette smokers).

5. Smoking prevalence

Why this indicator is important and what it measures

Smoking is one of the most significant causes of preventable illness and death in Ontario. Tobacco kills 13,000 people a year, three times the combined deaths caused by alcohol, drugs, suicide, homicide and car crashes. Tobacco-related disease costs Ontario's health care system $1.93 billion in direct health care costs and $5.8 billion in productivity losses each year.[15]

Efforts to address tobacco use in Ontario

It would be beyond the scope of this report to include a comprehensive, detailed inventory of all of the efforts currently underway in Ontario to address tobacco use. The provincial government, along with many health and non-health sector partners, has made considerable progress in this area in recent years. I also am heartened by commitments included in the Action Plan for Health Care related to reducing tobacco use. Efforts to control tobacco use also provide a very instructive example of a transformation in our collective understanding of a behaviour that was once thought to be acceptable. Tobacco use is now widely understood to be dangerous and unhealthy and government, health, and non-health sectors' efforts have been aligned in the attempt to address it.

To elaborate on this latter point, I would like to note that structures and processes have been established by the ministry to identify tobacco-related activities and establish programmatic approaches to address tobacco use in Ontario. Because there is a government goal to continue to reduce tobacco consumption in Ontario, both external advisory and internal senior, cross-government tables have been established to co-ordinate tobacco-

related activities. Progress on reducing tobacco consumption continues to be measured and cited by government. Additionally, the elements of our tobacco programming are diverse, and include one-on-one clinical interventions to prevent tobacco use and encourage cessation, health promotion (e.g., social marketing activities), health protection (e.g., policies and laws) and healthy public policies (e.g., interventions outside of the health sector that generate positive health benefits). A diversity of approaches that are aligned to achieve a common goal are far more likely to have an impact.

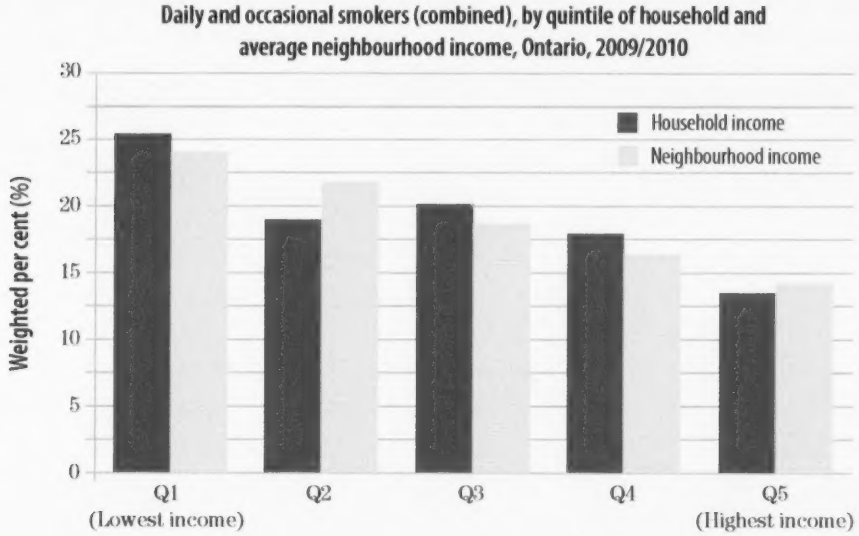
The Ontario data

Efforts to reduce tobacco use have yielded positive results and rates of those who report smoking on a daily or occasional basis are among the lowest in the country, second only to British Columbia.

In 2009/2010, 19 per cent of Ontario residents 12 years and older reported smoking on a daily or occasional basis (14 per cent reported smoking daily while five per cent reported smoking occasionally). Males were more likely to report daily or occasional smoking (23 per cent) than females (15 per cent). In 2009/2010, nine per cent of Ontario youth aged 12-19 reported smoking on a daily or occasional basis, a significant decrease from the 14 per cent who reported daily or occasional smoking in 2003. In 2009/2010, 23 per cent of Ontario adults age 20-64 reported smoking on a daily or occasional basis, a significant decrease from the 26 per cent who reported daily or occasional smoking in 2003. In 2009/2010, nine per cent of Ontario seniors age 65 and older reported smoking on a daily or occasional basis, similar to what was reported in 2003.

Similar to other indicators, those living in neighbourhoods in the lowest socioeconomic group were more likely to report smoking on a daily or occasional basis (26 per cent) than those living in neighbourhoods in the highest socioeconomic group according to neighbourhood material deprivation (15 per cent). When comparing lowest and highest quintiles of household and neighbourhood average income, results follow a similar pattern. Adults aged 25 and older with less than secondary school graduation or secondary school graduation/some post-secondary education were more likely to report smoking on a daily or occasional basis (26 per cent and 25 per cent, respectively), compared with those with post-secondary graduation (17 per cent). Those who identified themselves as FNIM living off-reserve were more likely to report smoking on a daily or occasional basis (35 per cent), compared to those who did not identify themselves as FNIM (18 per cent).

Daily or occasional smokers in Ontario by household average income



Sources: 1) Canadian Community Health Survey 2009/2010, Statistics Canada, Canada Share File, Distributed by Ontario MOHLTC; 2) Quintile of Adjusted Income per Person Equivalent (QAIPPE) from 2006 Census assigned by Postal Code Conversion File Plus (PCCF+), Distributed by Statistics Canada.

The above figure represents daily and occasional smokers by neighbourhood income. You will see that this chart illustrates quite starkly that Ontarians in the neighbourhoods with the lowest average incomes have the highest rates of smoking – one of the most significant modifiable risk factors for disease and/or early death.

Daily and occasional smokers in Ontario – age 12 and older

This table documents daily and occasional smokers in Ontario from 2003 to 2009-2010 and illustrates that overall rates have declined over time.

Daily and occasional smokers combined,[1] Ontario, both sexes combined and by sex, 2003 to 2009/2010						
	Both sexes combined		Males		Females	
Year	Estimated count	Estimated per cent	Estimated count	Estimated per cent	Estimated count	Estimated per cent
2003	2,271,041	22.2	1,250,054	24.8	1,020,986	19.6
2005	2,196,522	20.8	1,214,523	23.4	981,999	18.3
2007/2008	2,204,751	20.3	1,261,919	23.7	942,832	17.0
2009/2010	2,109,175	19.0	1,230,940	22.6	878,235	15.5

Source: Canadian Community Health Survey 2003-2009/2010, Statistics Canada, Canada Share File, Distributed by the Ministry of Health and Long-Term Care (MOHLTC)

Notes: Daily smokers refers to those aged 12 and over who reported smoking cigarettes every day. Occasional smokers refers to those who reported smoking cigarettes occasionally. This includes former daily smokers who now smoke occasionally.

How Ontario compares with other jurisdictions

In 2009/2012, 19 per cent of Ontarians 12 years of age and older reported smoking on a daily or occasional basis (14 per cent reporting daily and five per cent reporting occasional smoking). An OECD indicator for tobacco use includes daily smokers only aged 15 years of age and older, and therefore is not directly comparable to the Ontario rates reported here. However, the Canadian rate for 2010 using this OECD definition was 16 per cent and compares favourably to the OECD median of 19 per cent for countries reporting on this indicator (n=17). The range across the OECD countries was 14-26 per cent.[16]

With respect to trends over time, the Canadian Community Health Survey data from 2000 and 2010 show that smoking rates have fallen across Canadian jurisdictions although in some areas the rates have not been statistically significant. The overall decline was five per cent (from 26 per cent to 21 per cent). The northern territories currently have the highest smoking rates.[17]

By many measures, British Columbia is Canada's healthiest province. Compared to Ontarians, British Columbians smoke less, are more active, drink less alcohol and experience less stress.[18] We need to continue to build on our successes in smoking reduction to support Ontarians to live healthier lives for longer.

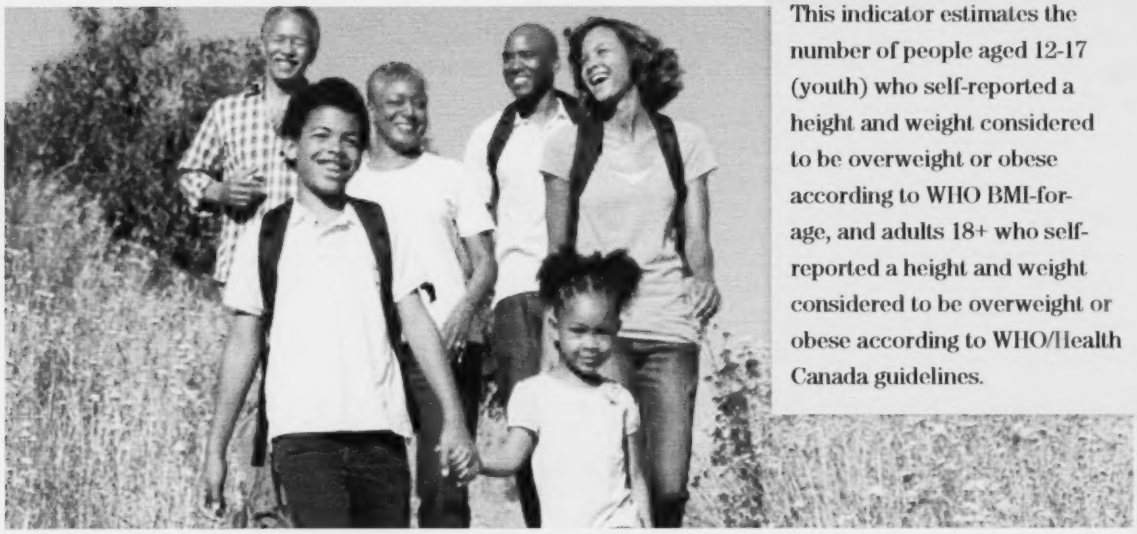
Opportunities for improvement

I am encouraged by the inclusion of two indicators related to tobacco use in the current accountability agreements between the ministry and boards of health/public health units: percentage of youth (ages 12-18) who have never smoked a whole cigarette and percentage of tobacco vendors in compliance with youth access legislation at the time of last inspection. Under the agreements, board of health performance on these indicators is being monitored.

Even though we have made substantial progress in reducing tobacco use and increasing public awareness of the dangers of smoking, there is still much work to be done. The data above demonstrate that Ontarians with lower socioeconomic status and FNIM are more likely to smoke. While I applaud the government's efforts to address tobacco use aggressively, I continue to encourage even greater efforts to reduce the number of new smokers and to help more to quit. I also encourage the government to consider aggressive targeted efforts that will focus on specific sub-populations, including disadvantaged Ontarians, with the highest rates of tobacco use.

Definition of this indicator

This indicator estimates the number of people aged 12-17 (youth) who self-reported a height and weight considered to be overweight or obese according to WHO BMI-for-age, and adults 18+ who self-reported a height and weight considered to be overweight or obese according to WHO/Health Canada guidelines.



6. Overweight and obesity

Why this indicator is important and what it measures

Overweight and obesity are modifiable risk factors for chronic diseases and cancer. Being overweight or obese also negatively affects our quality of life. In recent years there has been increasing concern about overweight and obesity, in particular among children. This is a very complex problem with complicated underlying causes; however, a healthy weight is an important part of a healthy life.

People who are at a healthy weight feel better, are less likely to develop chronic diseases and have a better quality of life. On the other hand, an unhealthy weight – being either underweight or overweight or obese – is a serious threat to health and well-being.[19]

It is also increasingly understood that obesity in childhood can increase the risk of chronic diseases including diabetes, cancer and heart disease later in life. According to the World Health Organization (WHO), being overweight is one of the most significant health challenges and risk factors for chronic disease in the 21st century (WHO, 2002).[20]

Overweight and obesity are increasing in Canada. Underlying causes include unhealthy lifestyles with poor nutrition and physical inactivity, as well as our "obesogenic" environment. As Ontario's former CMOH stated in her 2004 CMOH report *Healthy Weights, Healthy Lives*: "Just when Ontarians are faced with more food choices, more processed foods and larger food portions, we have engineered physical activity out of our lives, replacing it with remote controls, computers and video games."

In July 2011, Alberta's Chief Medical Officer of Health released the report: *You Are What You Eat; Preventing the Marketing of Unhealthy Foods and Beverages to Children.*[21] The report highlights the observation that the marketing of high fat, high salt and high sugar foods is

aggressively aimed at kids and can also include messages intended to convince them that these foods are healthy. It also talks about the use of cartoon characters, celebrities and athletes on food packaging, intended to appeal to children. Some jurisdictions in Canada and internationally have taken more aggressive steps. Québec has banned all advertising to children (in French language programming), including for food and beverages.

Efforts to address overweight and obesity in Ontario

There have been a number of efforts to prevent or reduce overweight and obesity in Ontario. These have included: efforts to incorporate daily physical activity in schools; incorporating healthy living and health promotion content in school curricula; other efforts at the provincial level to promote healthy weights and healthy behaviours in youth; efforts to reinforce health promotion messages to adults through both public health and primary care; and the launch of Eat Right Ontario, a free service that provides Ontarians with access to registered dieticians to provide advice on healthy food choices.

Public health units have also taken on a role in advocating for healthy built environments. Many health units work directly with municipalities to plan and create built environments that enable safe physical activity and access to healthy foods. This is an important area of endeavour.

Most recently at the provincial level, the Action Plan for Health Care established aggressive targets for reducing childhood obesity in Ontario – by 20 per cent over five years. An expert panel has been established to advise on approaches to achieve this goal and is preparing to deliver its report to government.

The Ontario data

The analysis included in this report uses the WHO BMI-for-age classification system for overweight and obese. Historically, rates have been calculated using the International Obesity Task Force (IOTF) approach (also known as the Cole system). Although the IOTF cut-offs have been used in Ontario and Canada, more recent reviews have found that it underestimates overweight and obesity in the population and the current recommendation by professional organizations in the country is to use the WHO BMI-for-age.[22]

In 2009/2010, 27 per cent of Ontario youth aged 12 to 17 reported a Body Mass Index (BMI) considered to be overweight or obese according to WHO BMI-for-age growth charts. This translates to 19 per cent considered overweight and eight per cent considered obese. As this indicator relies on self-reported data, the data may somewhat underestimate the percentage of Ontarians who are overweight or obese. Male youths are more likely to report a BMI which is considered to be overweight or obese (33 per cent) compared to female youths (20 per cent). Male adults are also more likely to report a BMI considered to be overweight or obese (60 per cent) compared to female adults (44 per cent).

In 2009/2010, 52 per cent of Ontario adults aged 18 and over reported a BMI considered to be overweight or obese (51 per cent of adults under 65 and 59 per cent of seniors aged 65 and older). In adults under 65, this translates to 33 per cent considered overweight and 18 per cent considered obese, while in seniors this translates to 39 per cent considered overweight and 20 per cent considered obese.

While there can be controversy about whether material disadvantage causes overweight or obesity, it is important to note that 37 per cent of youth living in neighbourhoods in the lowest socioeconomic group reported a BMI considered to be overweight or obese compared to 18 per cent reported by those living in neighbourhoods in the highest socioeconomic group. Adults aged 25 years and older with less than secondary school graduation or those with secondary school graduation or some post-secondary education were more likely to report a BMI considered to be overweight or obese (62 per cent and 58 per cent, respectively) compared to those with post-secondary graduation (53 per cent). Adults living in urban areas were less likely to report a BMI considered to be overweight or obese (51 per cent) compared to those living in rural areas (59 per cent). However, this relationship was not found in youth.

Lastly, adults who identified themselves as FNIM living off-reserve were more likely to report a BMI considered to be overweight or obese (62 per cent) compared to those who did not identify themselves as FNIM (52 per cent). There were no significant differences between youth identifying themselves as FNIM and those who did not.

How Ontario compares with other jurisdictions

About one-quarter of Canadian adults are obese, according to measured height and weight data from both the 2008 Canadian Community Health Survey (25 per cent) and the 2007-2009 Canadian Health Measures Survey (24 per cent). The prevalence of obesity is lower when derived from self-reported height and weight data from the combined 2007/08 CCHS (17 per cent). When obesity is combined with overweight, the prevalence in 2008 was 62 per cent when based on measured data and 51 per cent when self-reported data were used. Self-reported data are easier and less expensive to collect in population-level surveys but tend to underestimate the prevalence of obesity when compared with measured data. One study has suggested that self-reporting bias has increased since the early 1990s. However, both measured and self-reported data indicate that the prevalence of adult obesity in Canada has increased in recent decades.[23]

The most recent Canadian Health Measures Survey reports on the distribution of the household population aged 5 to 17, by body mass index based on direct measures (as opposed to self-reported data). For 2009-2011 an estimated 20 per cent of Canadians aged 5-17 were considered overweight and an estimated 12 per cent were considered obese.[24]

The OECD reports on the proportion of persons considered overweight or obese based on a BMI of greater than 25, derived from self-reported height and weight. In 2010, 42 per cent of Canadian females aged 18 and older were overweight or obese, close to the OECD median; the range for OECD countries reporting on this indicator was 16 per cent to 56 per cent. The proportion of Canadian males 18 and over considered overweight or obese was 59 per cent; this was higher than for Canadian females as well as the OECD median of 54 per cent. The OECD range was 29 per cent to 70 per cent.[25]

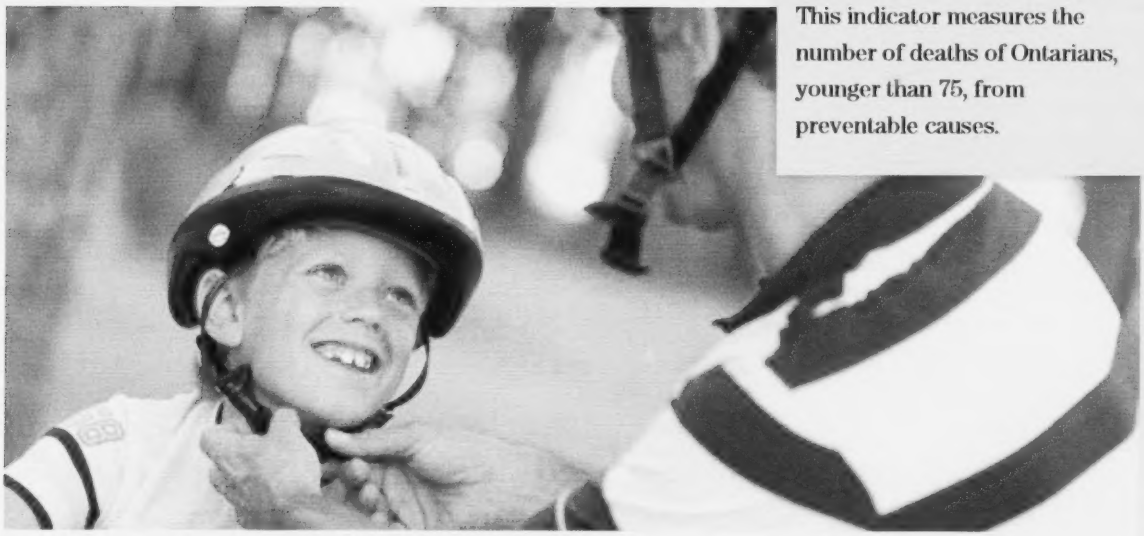
Opportunities for improvement

We must continue to reinforce messages about the importance of living healthy lives. However, Ontarians need more than education to achieve healthy weights. Similar to the war on tobacco, we need collaborative, multifaceted, all-of-government and multisectoral approaches to successfully address the obesity epidemic. These efforts will also need to be co-ordinated and sustained.

I am encouraged by commitments in the Action Plan for Health Care to reduce childhood obesity and look forward to the report of the expert panel which has been convened to provide recommendations on this issue.

Definition of this indicator

This indicator measures the number of deaths of Ontarians, younger than 75, from preventable causes.



7. Preventable mortality

Why this indicator is important and what it measures

This indicator measures preventable mortality due to specific causes. A key theme in this report is the importance of addressing modifiable risk factors for illness and death.

It is clear that some people in Ontario, particularly those who are more disadvantaged, face more challenges maintaining optimal health than those who are not. This indicator was chosen because it provides a stark illustration of the concrete impact of illness and injury on Ontarians, including reduced life expectancy. It also measures the disproportionate impact being experienced by some Ontarians such as those living in lower income neighbourhoods.

Recent key reports in Ontario, including *Seven More Years: The impact of smoking, alcohol, diet, physical activity and stress on health and life expectancy in Ontario* and *Opening Eyes, Opening Minds: The Ontario Burden of Mental Illness and Addictions Report*[26] discuss preventable mortality due to specific causes. My hope is that by reinforcing the messages in these reports and others, and by adding my voice to this discussion, I can help to catalyze further action to address the priority areas of concern that I've highlighted in this report – the importance of healthy child development, the urgent need to prevent chronic diseases and injuries, the critical importance of reinforcing established public health preventive measures that reduce the burden of infectious diseases on Ontarians and lastly, the significant burden of mental illness and addictions.

Efforts to address preventable mortality

Efforts to address preventable mortality are discussed throughout this report; however, I would like to reinforce the critical importance of key public health interventions in protecting Ontarians and supporting them to live longer, healthy lives. The Canadian Public Health Association notes that the average lifespan of Canadians has increased by more than 30 years since the early 1900s, and 25 of those years are attributable to advances in public health. There are several public health achievements, all of which have had a positive impact on the health of Ontarians and which have contributed to this significant change.[27] These include: control of infectious diseases; acting on the social determinants of health; working to create healthier environments; recognizing and acting on tobacco as a health hazard; contributing to motor vehicle safety; promoting and delivering family planning; contributing to safer foods, including through pasteurization; declining deaths due to coronary heart disease and stroke; creating healthier workplaces; improving the health of mothers and babies; and having a role in advocating for and creating universal policies and programs to protect the health of the public.

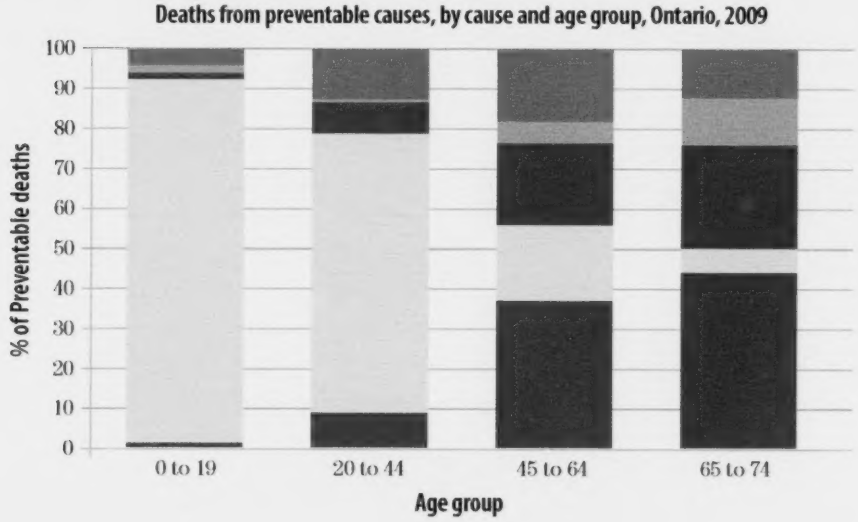
The Ontario data

In 2009 there were over 15,000 deaths from preventable causes in Ontario; age-adjusted rates of deaths from preventable causes have decreased over 15 per cent in the past decade. Rates of deaths from preventable causes are twice as high in males compared to females, largely driven by higher rates of death from injuries and cardiovascular disease. The leading causes of preventable deaths differed by age group. For example, injuries were more prominent in the younger age groups while cancers and cardiovascular disease were more prominent in older age groups. Preventable deaths from cancers and cardiovascular disease have significantly decreased, while deaths from injuries and respiratory diseases have remained stable over the past decade.

Geographic areas with the highest levels of neighbourhood material deprivation had higher rates of deaths from preventable causes (163 per 100,000 population) compared to areas with the lowest level of neighbourhood material deprivation (78 per 100,000 population).

Other measures of socioeconomic status showed a similar relationship with rates of deaths from preventable causes. The lower the level of neighbourhood average income, and the higher the residential instability (such as homelessness) or dependency, the higher the rate of deaths due to preventable causes.

This chart illustrates deaths from preventable causes by cause and age group in Ontario, for 2009. It provides a compelling illustration of preventable deaths along the life course of Ontarians, and how they differ by age.



Cancers	7 cancers, including liver and lung cancer.
Injuries	9 causes, including traffic accidents, suicide and self-inflicted injuries.
Cardiovascular diseases	6 causes, including ischaemic heart disease and cerebrovascular diseases.
Diseases of the respiratory system	2 causes, lung diseases due to external agents and chronic obstructive pulmonary disease.
Other	Several causes such as perinatal complications, endocrine disorders and alcohol disorders.

Source: Ontario Mortality Data (Data Year 2009), Ontario Ministry of Health and Long-Term Care, IntelliHEALTH ONTARIO extracted September 5, 2012.

Opportunities for improvement

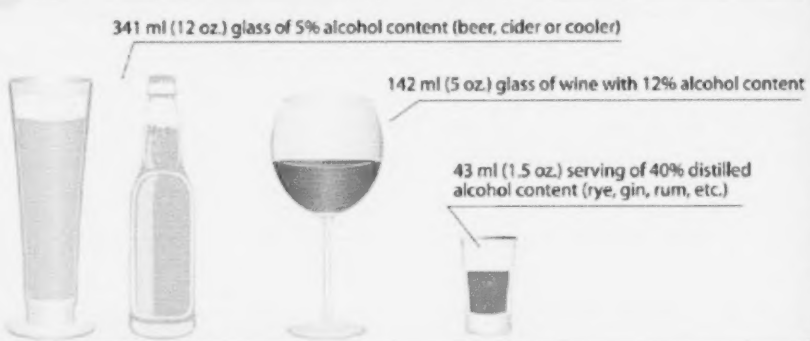
Throughout this report I discuss a number of efforts to improve the health status of Ontarians, many of which relate either directly or indirectly to preventable mortality.

We have a great deal more work to do to increase public awareness of the power of healthy behaviours to alter unhealthy life trajectories; however, Ontarians who are more disadvantaged bear a disproportionate burden of illness and premature death. Sustained, government-wide efforts are needed to address the burden of disease and premature death from the full range of causes that I discuss in this report, including efforts that acknowledge and directly address the disproportionate burden on specific groups.

Definition of this indicator

This indicator identifies the number of people 19 or older who are complying with Canada's Low-Risk Alcohol Drinking Guidelines; that is, not consuming alcohol at levels that exceed the guidelines.

For these guidelines, "a drink" means:


341 ml (12 oz.) glass of 5% alcohol content (beer, cider or cooler)
142 ml (5 oz.) glass of wine with 12% alcohol content
43 ml (1.5 oz.) serving of 40% distilled alcohol content (rye, gin, rum, etc.)

© Canadian Centre on Substance Abuse 2012. Developed on behalf of the National Alcohol Strategy Advisory Committee. Canada's Low-Risk Alcohol Drinking Guidelines are reproduced with permission from the Canadian Centre on Substance Abuse.

8. Compliance with Canada's Low-Risk Alcohol Drinking Guidelines

Why this indicator is important and what it measures

Alcohol use is a significant modifiable risk factor for disease, injury and premature death. However, it is a legal psychoactive drug that enjoys enormous popularity and special social and cultural signficance. Consequently, it can be difficult to talk about alcohol as a serious, and potentially dangerous, substance. There is still a great deal of work to be done to educate the public about the dangers associated with alcohol consumption and to de-normalize excessive alcohol use.

In 2002 the economic impact of alcohol-related harm in Canada was estimated at $14.6 billion per year. This figure included:

- $7.1 billion for lost productivity due to illness and premature death
- $3.3 billion for direct health care costs, and
- $3.1 billion for enforcement costs[28]

In my discussion of the self-reported positive mental health indicator later in this document, I will note that *Opening Eyes, Opening Minds*, a recent report by Public Health Ontario and the Institute for Clinical Evaluative Sciences found that alcohol use disorders contributed to 88 per cent of the total number of deaths due to mental illness and 91 per cent of the years of life lost to dying early of the mental health conditions studied in the report.

Alcohol abuse is the most common type of addiction in Ontario, and the misuse of alcohol has been linked to a number of adverse outcomes including injury and disease. Excessive alcohol use has been strongly associated with heart disease and stroke as well as an increased risk of developing type 2 diabetes. Specific cancers are also associated with alcohol use, including oesophageal, laryngeal, colon and liver cancers. In addition, the increased risk of cancer seen in many heavy users of alcohol is likely worsened by a strong association between alcohol use and smoking.

Opening Eyes, Opening Minds also reminds us that, unlike some other conditions, the burden associated with excessive alcohol use includes a significant number of premature deaths. This can include motor vehicle-related and other deaths caused by alcohol intoxication. In addition, the burden of premature death and injury due to "binge" drinking can be disproportionately borne by the young, particularly young men.

New Canadian Low-Risk Alcohol Drinking Guidelines were released as a component of the National Alcohol Strategy and were accepted by federal, provincial and territorial ministers of health. The guidelines are intended to provide consistent, evidence-based information to help Canadians moderate their alcohol consumption and reduce both immediate and long-term alcohol-related harm. The Canadian Centre on Substance Abuse estimates that if all Canadian drinkers consumed alcohol within the guidelines, alcohol-related deaths would be reduced by approximately 4,600 per year.

Efforts to address alcohol use in Ontario

Governmental efforts to reduce alcohol use have been multi-faceted including: restricting access and imposing a minimum legal age for purchasing alcohol; placing controls on advertising; and a range of health promotion, harm reduction and treatment efforts.

There are also a range of public health programs and services which aim to increase public awareness of the dangers of substance misuse and promote healthy public policies to reduce these risks. These include: promoting the Low-Risk Drinking Guidelines; promoting responsible driving including not driving under the influence of alcohol; and advising women who know they are pregnant or are planning to become pregnant of the harmful effects of alcohol on their unborn child.

The Ontario data

In 2009/2010, 59 per cent of Ontario residents aged 19 and older reported consuming alcohol in compliance with the Low-Risk Drinking Guidelines pertaining to daily and weekly consumption, and consumption on special occasions (Guidelines 1 and 2). A more detailed analysis identified that five per cent of Ontario residents reported alcohol consumption that only exceeded the guideline addressing the risk of chronic disease; 19 per cent reported alcohol consumption that only exceeded the guideline related to the risk of injury; and 17 per cent reported alcohol consumption that exceeded both of these guidelines. Females reported greater compliance with low-risk drinking guidelines (70 per cent) compared to males (48 per cent). Those in older age groups reported greater compliance with low-risk drinking guidelines, with seniors aged 65 and older reporting 79 per cent compliance compared to those aged 19-34, who report 41 per cent compliance.

Those living in neighbourhoods in the lowest socioeconomic group reported greater compliance with low-risk alcohol drinking guidelines (63 per cent) compared to those living in neighbourhoods in the highest socioeconomic group (54 per cent) according to neighbourhood material deprivation. When comparing lowest and highest quintiles of household and neighbourhood average income, results follow a similar pattern. Adults aged 25 and older with less than secondary school graduation reported greater levels of compliance with low-risk drinking guidelines (78 per cent), compared with those with post-secondary graduation (73 per cent).

These findings appear to be consistent with findings from the United States Centers for Disease Control and Prevention which found that in the U.S., binge drinking is more common among those with household incomes of $75,000 or more (but the largest number of drinks consumed per occasion is significantly higher among binge drinkers with lower household incomes).[29]

In Ontario, those who identified themselves as FNIM living off-reserve reported lower compliance with low-risk drinking guidelines (47 per cent) compared to those who did not identify themselves as FNIM (59 per cent).

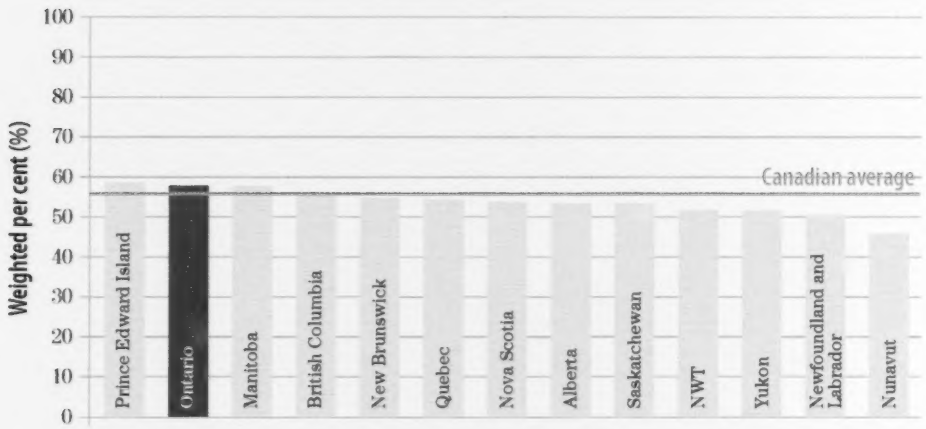
In terms of trends over time in Ontario, compliance for both sexes combined was 58 per cent in 2003 and 59 per cent in 2009-2010.

How Ontario compares with other jurisdictions

In 2005, 58 per cent of Ontarians complied with Low-Risk Drinking Guidelines #1 and #2, which was slightly above the Canadian average. Nunavut reported the lowest compliance, with Prince Edward Island reporting the highest.

The table below illustrates that in 2005 Ontario was not significantly different than the national average.

Compliance with Low-Risk Alcohol Drinking Guidelines (aged 19+), Canada and by Province, 2005



Source: Canadian Community Health Survey 2005, Statistics Canada, Canada Share File, Distributed by Ontario MOHLTC.
There is no directly comparable OECD indicator available.

Opportunities for improvement

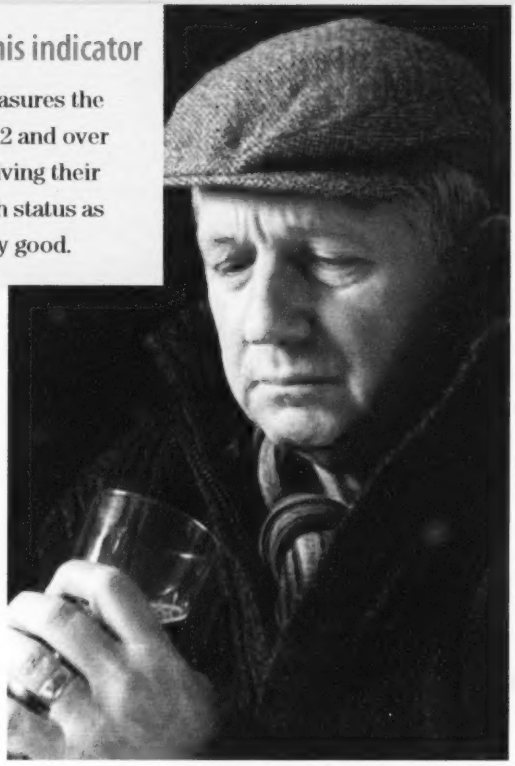
I am very encouraged that an indicator related to these guidelines has also been incorporated into the current accountability agreements with boards of health: percentage of the population (19+) that exceeds the Low-Risk Drinking Guidelines. Under the agreement, boards of health are being required to report on this indicator and public health efforts in this area are being monitored.

Notwithstanding the above, there is much more work to be done to de-normalize excessive alcohol consumption and to make the public aware of the risks. I would like to see more discussion and acknowledgement in government policy of the significance of excessive alcohol use and aggressive commitments to reduce harm associated with it. In addition, more effort must be made to increase public awareness of the health and economic impacts of alcohol misuse in Ontario.

Similar to tobacco, we need a comprehensive alcohol control strategy for Ontario. There have been a number of efforts to control alcohol use which have had a positive impact; however, many efforts are fragmented and are not sufficiently co-ordinated to address the harm associated with alcohol misuse in Ontario.

Definition of this indicator

This indicator measures the population aged 12 and over who report perceiving their own mental health status as being good or very good.



9. Self-reported positive mental health

Why this indicator is important and what it measures

There is an increasing awareness of the importance of mental health to overall health. This is the good news. For many years, mental health and people living with mental illness have been relegated to the sidelines in discussions about health policy and health care delivery.

In more recent years there have been a number of efforts in Canada at the federal, provincial and territorial levels to bring mental health to the forefront, reduce stigma and increase public awareness about mental illness.

In October 2012, Public Health Ontario (PHO) and the Institute for Clinical Evaluative Studies (ICES) released *Opening Eyes, Opening Minds: The Ontario Burden of Mental Illness and Addictions Report*. It is the third in a series of reports which address the burden of various diseases in Ontario.

Opening Eyes, Opening Minds found that: "Most Ontarians are affected, either directly or indirectly, by mental illness and addiction issues. Onset often occurs at a young age and can persist throughout life, with a significant impact on social connections, educational goals and workforce participation. The impact of mental illness and addiction on life expectancy, quality of life and health care utilization is significant – in many cases, more so than with other medical conditions, yet is often under-recognized. Mental health is a critical component of overall health. Measuring the burden of mental illness and addiction is an important step in ensuring that the needs of people who suffer from these conditions are understood and can be addressed."

The report found that:

- The burden of mental illness and addictions in Ontario is more than 1.5 times that of all cancers and more than seven times that of all infectious diseases. The nine conditions identified in the report (major depression, bipolar disorder, alcohol use disorders, social phobia, schizophrenia, panic disorder, agoraphobia, cocaine use disorders and prescription opioid misuse) contributed to the loss of over 600,000 health adjusted life years (HALYs), a combination of years lived with less than full function and years lost to early death in Ontario.
- Five conditions have the highest impact on the life and health of Ontarians: depression, bipolar disorder, alcohol use disorders, social phobia and schizophrenia.
- Depression is the most burdensome condition with twice the impact of bipolar disorder, the next highest condition. The burden of depression alone is more than the combined burden of lung, colorectal, breast and prostate cancers. In terms of deaths, alcohol use disorders contributed to 88 per cent of the total number of deaths attributed to these conditions and 91 per cent of the years of life lost to dying early.

Efforts to address mental health in Ontario

There have been a number of efforts to address mental health and addictions in Ontario in a more comprehensive and systemic way than in the past. In June 2011 the government launched a Comprehensive Mental Health and Addictions Strategy which has a particular focus on helping children and families. The strategy is intended to deliver more, and more timely, services and supports to children and families; build awareness and support around mental health issues by reducing stigma and discrimination; and put more services in place to contribute to identifying problems and providing services earlier. Through the strategy, more mental health workers have been put in communities and schools; eating disorders services for children and youth have been expanded; and there are expanded telepsychiatry services available to children in remote, rural and underserviced communities.

The Ontario data

Self-reported positive mental health is a useful measure of the mental health of the population, and the good news is that many Ontarians reported their self-perceived mental health as positive. However, as the recent PHO/ICES report illustrates, many Ontarians are suffering a significant burden from mental illness and/or addiction.

In 2009/2010, 74 per cent of Ontario residents reported their perceived mental health as very good or excellent, a similar rate to what was found in Canada overall. However, a lower proportion of those in older age groups reported positive mental health, with 72 per cent of seniors aged 65 and older reporting positive mental health compared to 76 per cent of those aged 12 to 17.

Adults aged 25 and older with less than secondary school graduation reported lower positive mental health (62 per cent) compared to those with secondary school graduation or some post-secondary education (71 per cent), or those with post-secondary graduation (77 per cent). In addition, those living in neighbourhoods in the lowest socioeconomic group reported lower positive mental health (66 per cent) compared to those living in neighbourhoods in the highest socioeconomic group (78 per cent). Lastly, those who identified themselves as FNIM living off-reserve reported lower positive mental health (62 per cent) compared to those who did not identify themselves as FNIM (75 per cent).

How Ontario compares with other jurisdictions

As noted above, in 2009-2010 74 per cent of Ontarians reported positive mental health, similar to the Canadian average. The Northwest Territories reported the lowest percentage at 66 per cent and Quebec reported the highest percentage at 76 per cent.

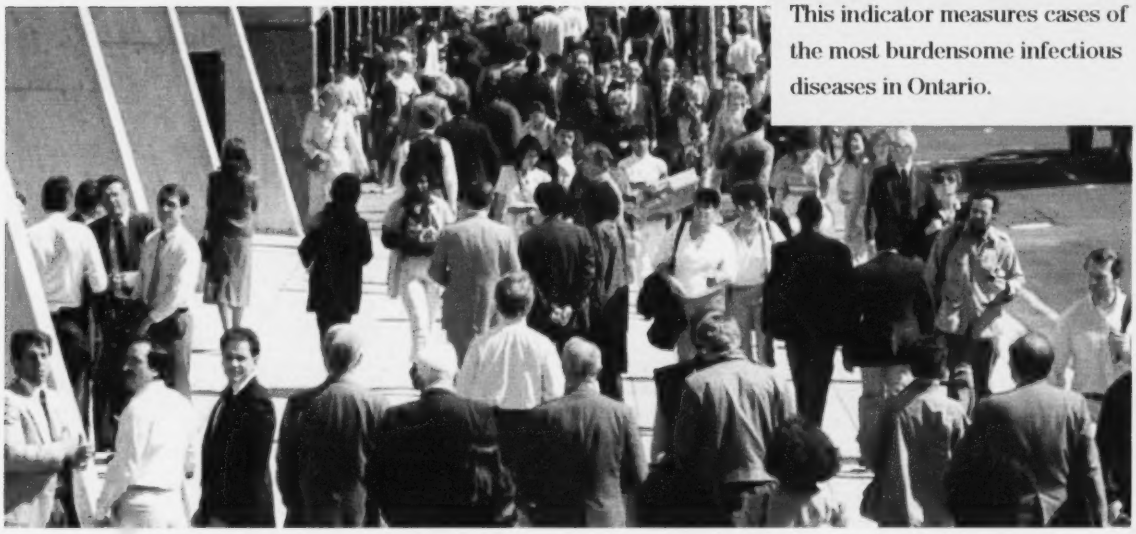
Opportunities for improvement

In my special CMOH report, *Oral Health – More Than Just Cavities*[30] I stated that oral health cannot be separated from the overall health of an individual. The same is true for mental health. I would like to see more efforts to reduce the stigma associated with mental health and addictions, and a greater understanding that mental health and addictions must be recognized and understood as critically important health issues. I also would like to see more discussion of what role the public health sector could play in promoting and protecting mental health, managing stress, recognizing risk factors for mental health disorders and building resilience in communities.

I am encouraged that public awareness about mental health and addictions seems to be improving; however, we have more work to do. We also have more to do to address the disproportionate burden of mental health and addictions in more disadvantaged Ontarians and Ontario's seniors.

Definition of this indicator

This indicator measures cases of the most burdensome infectious diseases in Ontario.



10. The burden of infectious diseases

Why this indicator is important and what it measures

The public health sector plays a significant role in the prevention and control of infectious diseases. In Ontario, in the aftermath of significant events such as the deaths due to waterborne illness in Walkerton and the SARS outbreak, the provincial government has focused considerable efforts on renewing the capacity of the public health sector to prevent and manage infectious diseases. The burden of infectious diseases on the health of Ontarians is also not well appreciated. This indicator measures cases of the most "burdensome" infectious diseases as identified in the Ontario Burden of Infectious Diseases Study.

Efforts to prevent infectious diseases in Ontario

Key achievements have included the creation of Ontario's public health agency, Public Health Ontario; the creation of the Regional Infection Control Networks; funding for increased infection prevention and control capacity in Ontario's public health units; and creation of the Emergency Management Branch at the Ministry of Health and Long-Term Care, which has a broad mandate that includes overseeing provincial health emergency planning and response efforts, including infectious disease emergencies.

At the local level, public health units work very closely with a broad range of health care providers and organizations to prevent infectious diseases and to manage cases or outbreaks when they do occur. This is a challenging role which is often not well understood or acknowledged, but which is critical to protecting the health of Ontarians.

The Ontario data

The Ontario Burden of Infectious Diseases Study, 2010 found that:

- Each year in Ontario there are over 7,000,000 infectious disease episodes and nearly 4,900 deaths from infectious diseases.
- Infectious diseases accounted for 82,881 Health Adjusted Life Years (HALYs) comprising 68,213 years of life lost due to premature mortality and 14,668 year equivalents of reduced functioning: more than 80 per cent of the disease burden associated with infectious diseases is from premature mortality rather than from disease-associated morbidity.
- The top ten most burdensome infectious agents were: hepatitis C virus (HCV); *Streptococcus pneumoniae*; human papillomavirus (HPV); hepatitis B virus (HBV); *Escherichia coli* (E. coli); human immunodeficiency virus (HIV); *Staphylococcus aureus*; influenza; *Clostridium difficile*; and rhinovirus.
- A large proportion of the burden of illness could be attributed to a small number of microorganisms and syndromes for which highly effective, targeted interventions (e.g., pneumococcal, hepatitis B and HPV vaccines) and non-specific interventions (e.g., hand washing, male and female condoms) already exist.
- The mortality and morbidity associated with illnesses that can be prevented by childhood immunizations have been largely eliminated as a result of the success of routine childhood immunization programs.[31]

How Ontario compares with other jurisdictions

The Ontario data for this indicator is derived from the integrated Public Health Information System and addresses particularly "burdensome" diseases as defined in the Ontario Burden of Infectious Diseases Report. Further analysis would be required to analyze comprehensive comparative data for the same time frame from other provinces and territories.

Although an overall measure for infectious diseases is not available in an OECD report, the number of AIDS cases is reported. In 2009, there were 224 cases of AIDS reported in Canada, whereas the range for OECD countries (n=32) was 0 to 32,942, with a median of 112 cases.

Opportunities for improvement

As I've noted, Ontario has made considerable strides in renewing our capacity to address infectious diseases.

However, there continues to be a significant burden from infectious diseases for which well-established preventive practices are available. We need to identify best practices in Ontario and elsewhere, and ensure that they are replicated across the province. Where the solutions are lacking or not as evident, we need to be encouraging research into new methods of disease control. These could include new vaccine development or innovative infectious disease prevention and control programming.

Definition of this indicator

This indicator measures the number of seniors who were admitted to hospital as a result of a fall.

11. Hospitalizations for falls in seniors

Why this indicator is important and what it measures

In previous reports I've talked about the importance of injury prevention.

People over age 65 have the highest mortality rate from injuries. In the elderly, injuries from falls cause about one-half of deaths due to injury. However, most falls are predictable and preventable.

Ontario's annual costs for falls in seniors have been estimated at $962 million. In fiscal year 2009:

- 50 per cent of injury-related hospitalizations were due to falls;
- more than 90 per cent of all hip fractures were due to falls;
- ~55 per 1,000 seniors visited the Emergency Department due to a fall; and
- ~13 per 1,000 seniors were hospitalized due to a fall.[32]

Efforts to reduce falls in seniors

There are a number of efforts underway to reduce falls in seniors. These include injury prevention and education initiatives by home care and long-term care providers; injury prevention programming and education by public health; and collaboration between health care providers to address this issue. In September 2010, the ministry identified falls prevention as a top priority. In response, the *Integrated Provincial Falls Prevention Project* was initiated as a Local Health Integration Network (LHIN) priority project in partnership with public health. The strategy is intended to improve quality of life for Ontario seniors (age 65 years and over) and to lessen the impact of falls on the health care system by reducing the number and impact of falls.

The Ontario data

In 2010, over 25,000 Ontario seniors were hospitalized due to falls and women had higher rates of hospitalization for falls than men.

In terms of trends over time, hospitalization rates for falls in seniors aged 65 and older in Ontario have fallen over 12 per cent in the past decade when taking population aging into account – from 1,344 hospitalizations per 100,000 population to 1,187 hospitalizations per 100,000 population. Most of the decrease occurred between 2003 and 2007.

How Ontario compares with other jurisdictions

Falls account for more than half of all injuries among Canadians 65 years of age and over. One-third of Canadian seniors living in the community experience one fall each year and half of those will fall more than once. The likelihood of dying from a fall-related injury increases with age. Among seniors, 20 per cent of deaths related to injury can be traced back to a fall. Falls account for 34 per cent of all injury-related hospital admissions and 85 per cent of seniors' injury-related hospitalizations, making them the leading cause nationally of injury-related hospital admissions for seniors.[33]

A national study of 2008/2009 data found that the rate of hospitalizations due to falls in seniors 65 and older in Ontario was second lowest in the country and significantly lower than the Canadian average.[34]

Opportunities for improvement

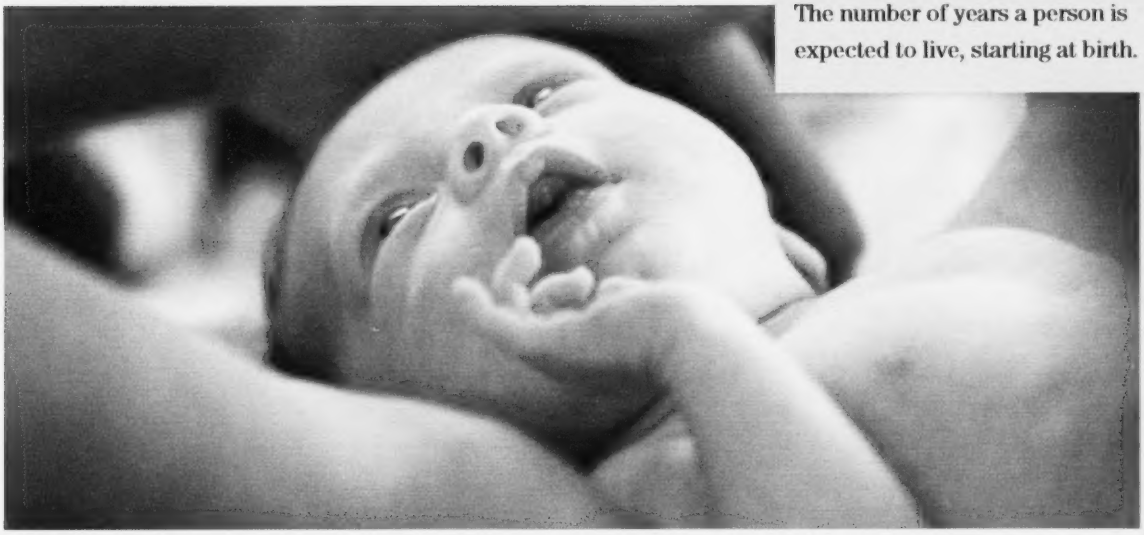
I'm encouraged that an indicator related to fall-related emergency department visits is also included in the current accountability agreements with boards of health: fall-related emergency visits in older adults aged 65+.

I'm also encouraged by the example of collaboration between Ontario's public health units and the LHINs which is being provided through the Integrated Falls Prevention Framework. I will be watching the progress of this work closely to assess whether it can also provide a model for further collaboration between public health, the LHINs and the broader health care system on other issues, including some of those identified in this report.

Additionally, an increased focus on healthy and safe built environments is important to preventing falls. Some public health units have taken a leadership role in working with municipalities to promote and develop healthy and safe built environments and, as I've noted previously, I would like to see these efforts expanded.

Definition of this indicator

The number of years a person is expected to live, starting at birth.



12. Life expectancy at birth

Why this indicator is important and what it measures

Life expectancy at birth is a widely used health indicator. It is well understood as a measure of a population's general state of overall health. Overall, the picture in Ontario and in Canada is a good one. Life expectancy at birth continues to increase for the general population. In addition, Canada generally compares well to other developed countries. With this said, this indicator is often cited to illustrate disparities within populations. For example, Sir Michael Marmot, author of the Whitehall Study and chair of the Marmot review, often cites differences in life expectancy in people of differing socioeconomic status in Great Britain.

Statistics Canada has also examined life expectancy across different sub-populations in Canada and concludes that; "The dramatic increase in life expectancy in Canada and other economically developed nations during the last century stands as testimony to the success of improvements in public health and advances in medical care. But despite these gains in longevity, inequalities in health outcomes across different subpopulations are still pervasive in Canada and other industrialized countries. Irrespective of how socio-economic status is defined and measured (by income, educational attainment or occupational prestige), mortality rates show a gradual but systematic increase at successively lower levels of the socio-economic hierarchy."[35]

Efforts to improve life expectancy

When I discuss the Ontario data, you'll see that the picture overall is very good. Like many other industrialized, developed countries, life expectancy in Canada and in Ontario continues to increase. This can be attributed to a number of factors, including a generally good standard of living, access to health and social services including universal health care and general improvements to the health of the population overall.

The Ontario data

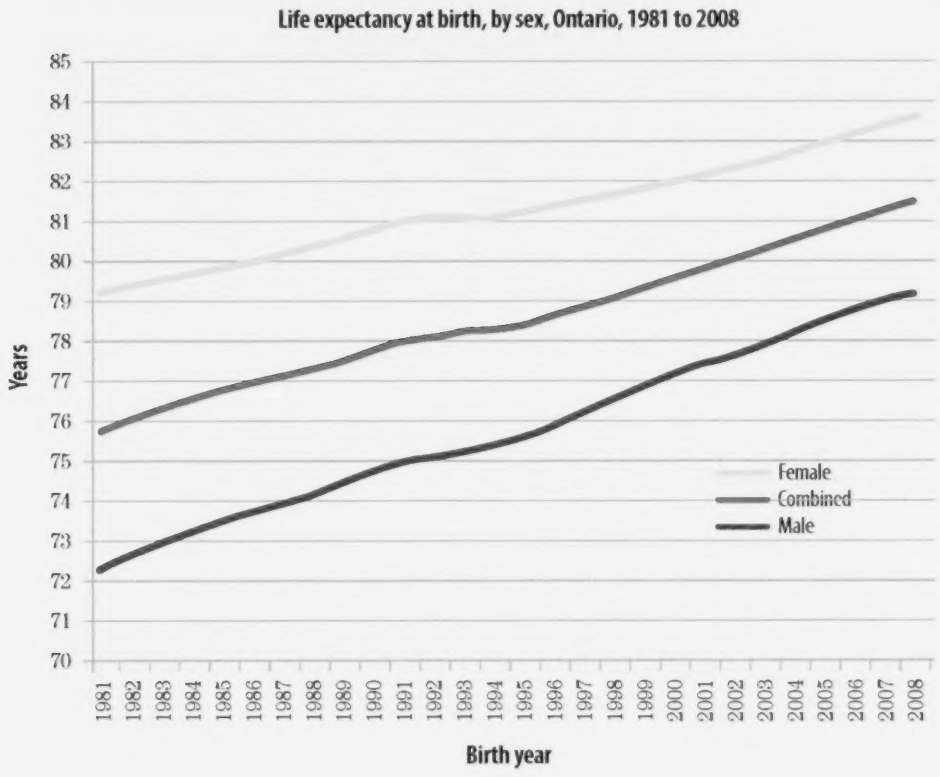
Life expectancy at birth in Ontario is higher than all other provinces except British Columbia. This is the case for both males and females. A baby born in Ontario in 2008 is expected to live, on average, to be 82 years old. Life expectancy at birth in Ontario has increased steadily since 1981 when it was 76 (an increase of six years). Over time, the gap in life expectancy at birth between males and females in Ontario has decreased (from a seven-year difference in 1981 to a four-year difference in 2008). However, as noted above, there are significant disparities in life expectancy by socioeconomic status. This is very concerning. Findings from Canada and other countries have consistently demonstrated that even in the context of overall improvements in life expectancy [in industrialized countries], disparities by socioeconomic status persist.

The 2012 ICES/PHO report *Seven More Years: the impact of smoking, alcohol, diet, physical activity and stress on health and life expectancy in Ontario* found that Ontarians could gain seven more years of life expectancy by living healthier lives. The report found that:

- Sixty per cent of deaths in Ontario in 2007 were attributable to smoking, unhealthy alcohol consumption, poor diet, physical inactivity and high stress.
- Nearly all Ontarians reported at least one of the five unhealthy behaviours. Only 1.4 per cent had none.
- Those with all five risk factors had a much shorter life expectancy than people with none of the risks (68.5 years versus 88.6 years for men; 71.5 years versus 92.5 years for women).
- Ontarians in the most deprived neighbourhoods had a life expectancy nearly 4.5 years lower than those in the best socioeconomic conditions. Smoking was the biggest contributor which suggests that reducing this modifiable risk factor in people in lower socioeconomic groups could significantly improve their health status.

Life expectancy at birth 2000-2008

This table illustrates that life expectancy for the population overall has been steadily increasing, and that the gap between women and men is closing.



Source: Vital Statistics, Statistics Canada (CANSIM Table #102-0025 and #102-0512)

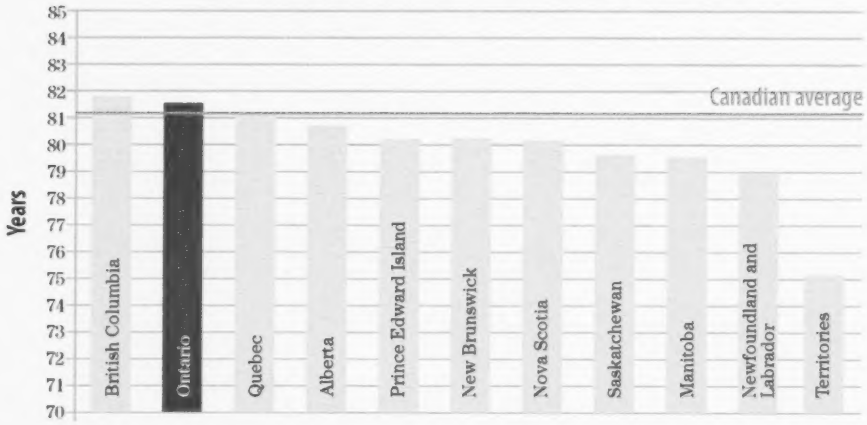
How Ontario compares with other jurisdictions

In general terms, Canada compares very well to other OECD countries. A recent OECD summary reports that Canadians had a life expectancy one year higher than the OECD average. In 2008, life expectancy at birth in Canada was 81 years, slightly above the OECD average of 80 years. Life expectancy for women was 83 years, compared with 79 for men, close to the OECD average gender gap of six years, with life expectancy (in the OECD) of 83 years for women and 77 for men.[36,37,38]

Life expectancy at birth by province

In the Seven More Years report, the authors note that British Columbians are healthier than Ontarians. The chart below also illustrates how Ontario is faring relative to other provinces and territories.

Life expectancy at birth, both sexes combined, by province, 2008



Source: Vital Statistics, Statistics Canada (CANSIM Table #102-0512)

Opportunities for improvement

Even though life expectancy for both women and men has increased in Ontario, and many Ontarians live long and healthy lives, I am concerned about the inequities in life expectancy in different groups as demonstrated above in the work done by Statistics Canada. I would like to see more discussion of this in Ontario as well as more focused efforts to address it.

In my view, there is not enough awareness of the differences in life expectancy by socio-economic status. This indicator illustrates that Ontarians who are more disadvantaged do not live as long as those of higher socioeconomic status. This is unacceptable in a country and province with the resources and advantages that Ontario and Canada possess.

This indicator also provides an opportunity to talk about the unique contribution that public health can make to efforts in this area. There is a need for greater collaboration and linkages between the public health and health care sectors to discuss and address issues of inequity and unequal population health status, and to reinforce good public health practices related to health promotion and disease prevention. Public health can undertake evidence-informed assessments of the health status of populations and share strategies to address them. Public health also has a role to play in advancing the conversation on the determinants of health and health inequities.

Conclusions

We have much to be proud of in Ontario. We have made significant progress in improving the health of all Ontarians: we have worked hard to reduce tobacco use; we have comprehensive, publicly funded immunization programs; we have made significant strides in preventing and managing communicable and infectious diseases; we have made new investments in the public health sector; and we are working to bring more Ontario families and children out of poverty. There is a greater awareness and understanding of the significance of mental illness and of governmental and health sector efforts to promote and maintain good mental health.

With all of this said, there is still a significant amount of work to be done:

- For almost all of the indicators that I've chosen, disadvantaged Ontarians bear a disproportionate burden of poorer health, disease and premature death. This reality must be acknowledged and addressed more directly in health policy and health service planning and delivery.
- Negative life trajectories can be improved with the right supports and interventions. This must include addressing the economic, social and environmental determinants of health.
- Modifiable risk factors are exactly that – they can be modified. We must continue to fight the war on tobacco and the significant burden of ill health from substance misuse, including excessive alcohol use.
- We must continue to advocate for greater understanding and awareness of the burden of mental illness and addictions. We must keep reinforcing the message that there is no health without mental health.
- We must keep advocating for and providing public health interventions that have helped to transform the health of populations the world over. These include core public health activities like immunization, drinking water fluoridation and enhanced food safety through interventions such as pasteurization.

In short, we must continue to maintain the gains we have made while always working to move the yardstick for the sake of all Ontarians. An important way of doing that is to take stock of our progress and identify areas for improvement.

There are a number of health status reports with technical indicators available. What distinguishes this one is that it is uniquely about Ontario and comes from the vantage point of the Chief Medical Officer of Health. It doesn't talk about wait times and access to health care services. It talks about health – not health care, and takes a population health approach while highlighting health disparities.

The challenges highlighted by the health indicators chosen are not simple ones to overcome. Continued progress will require the engagement of citizens and *co-ordinated*, government-wide, multisectoral approaches. In many instances, the activities underway related to each of the indicators will need to be identified and aligned "vertically" (at federal, provincial, regional and local levels) and "horizontally" (across the health and non-health sectors). It is only then that we'll be able to identify the full scope and breadth of what is being done to address the challenges, determine if there is any duplication and identify where there may be gaps that could be filled.

Acknowledgements

Members of the Chief Medical Officer of Health Report Advisory Group

External Members

Dr. Adalsteinn Brown, Director, Institute of Health Policy, Management & Evaluation, University of Toronto

Dr. Charles Gardner, Medical Officer of Health, Simcoe Muskoka District Public Health Unit

Dr. Vivek Goel, President and Chief Executive Officer, Public Health Ontario

Dr. Ben Levin, Professor and Canada Research Chair in Education Leadership and Policy, Ontario Institute for Studies in Education, University of Toronto

Dr. Doug Manuel, Senior Scientist, Clinical Epidemiology, Ottawa Hospital Research Institute

Dr. Penny Sutcliffe, Medical Officer of Health, Sudbury and District Public Health Unit

Provincial Government Members

Sarah Cox, Senior Advisor, Office of the Chief Medical Officer of Health and Executive Director, Public Health Division

Sheree Davis, Director, Community and Population Health Branch, Ministry of Health and Long-Term Care

Anne-Joyelle Occhicone, Program and Standards Advisor, Health Promotion Division, Ministry of Health and Long-Term Care

The following individuals also provided technical advice, indicator derivation, data, and review for this report:

Public Health Ontario:

Badal Dhar, Health Analyst, Analytic Services
Lisa Fortuna, Manager, Incident Response
Jeremy Herring, Epidemiologist Lead, Analytic Services
Gillian Lim, Epidemiologist, Immunization and Vaccine Preventable Disease
Amrita Maharaj, Issues Analyst, Incident Response
Brenda Mitchell, Director, Knowledge Services
Dr. George Pasut, Vice President, Science and Public Health
Michelle Policarpio, Project Coordinator, Analytic Services
Ruth Sanderson, Manager, Analytic Services
Michael Whelan, Senior Epidemiologist, Surveillance Services

Ministry of Children and Youth Services:

Jon Belcher, Research Analyst, Ministry of Children and Youth Services

We wish to thank the following Ontario ministries and/or departments for their review of this report:

Ministry of Children and Youth Services
Ministry of Health and Long-Term Care

The development of the report was led by Jacky Sweetnam, Manager, Strategic Policy and Planning (A), Public Health Division, Ministry of Health and Long-Term Care

Appendix: Medical Officer of Health and Associate Medical Officer of Health Vacancies

Ontario Health Units with Vacant Medical Officer of Health (MOH) Positions Filled by Acting MOHs as of October 19, 2012

Elgin-St. Thomas Health Unit
Haldimand-Norfolk Health Unit
Middlesex-London Health Unit
County of Oxford Department of Public Health and Emergency Services
Timiskaming Health Unit
Total = 5 Health Units with MOH Vacancies

**Vacancies may include positions filled by qualified physicians awaiting appointment by boards of health and ministerial approval.*

Ontario Health Units with Vacant Associate Medical Officer of Health (AMOH)* Positions as of October 19, 2012

Durham Regional Health Unit
Grey Bruce Health Unit
Windsor-Essex County Health Unit
York Regional Health Unit
Total = 4 Health Units with AMOH Vacancies**

**Under 62. (1)(b) of the Health Protection and Promotion Act, every board of health may appoint one or more associate medical officers of health.*

***Vacancies may include less than or more than one FTE position per health unit and include positions filled by qualified physicians awaiting appointment by boards of health and ministerial approval.*

References

1 Ministry of Health and Long-Term Care. Health, Not Health Care – Changing the Conversation. Toronto, ON: Queen's Printer for Ontario; 2011 [cited 2012 Nov 15]. Available from: http://www.health.gov.on.ca/en/common/ministry/publications/reports/cmoh_10/cmoh_10.pdf.

2 Ministry of Health and Long-Term Care. Public Health – Everyone's Business. Toronto, ON: Queen's Printer for Ontario; 2010 [cited 2012 Nov 15]. Available from: http://www.health.gov.on.ca/en/common/ministry/publications/reports/cmoh_09/cmoh_09.pdf.

3 NHS Institute for Innovation and Improvement; Association of Public Health Observatories. The Good Indicators Guide; Understanding how to use and choose indicators. Coventry, UK: National Health Service; 2008 [cited 2012 Nov 15]. Available from: http://www.apho.org.uk/resource/item.aspx?RID=44584.

4 Representative for Children and Youth; Office of the Provincial Health Officer. Growing up in B.C. Victoria, BC: Ministry of Health; 2010 [cited 2012 Nov 15]. Available from: http://www.health.gov.bc.ca/library/publications/year/2010/growing-up-in-bc.pdf.

5 Public Health Agency of Canada. Early Primary School Outcomes associated with maternal use of alcohol and tobacco during pregnancy with exposure to parent alcohol and tobacco use postnatally. Ottawa, ON: Public Health Agency of Canada: 2010 [cited 2012 Nov 15]. Available from: http://publications.gc.ca/collections/collection_2010/aspc-phac/HP10-13-2010-eng.pdf.

6 ON-Marg: Ontario Marginalization Index [Internet]. Hamilton, ON: McMaster University; 2001–2006 [cited 2012 Nov 29]. Available from: http://www.crunch.mcmaster.ca/ontario-marginalization-index.

7 Public Health Agency of Canada. Canadian Perinatal Health Report, 2008 Edition. Ottawa, ON: Public Health Agency of Canada, 2008 [cited 2012 Nov 30]. Available from: http://www.phac-aspc.gc.ca/publicat/2008/cphr-rspc/pdf/cphr-rspc08-eng.pdf.

8 Ministry of Health and Long-Term Care. Ontario's Action Plan for Health Care. Toronto, ON: Queen's Printer for Ontario, 2012 [cited 2012 Nov 30]. Available from: http://www.health.gov.on.ca/en/ms/ecfa/healthy_change/docs/rep_healthychange.pdf.

9 Association of Public Health Epidemiologists in Ontario [internet]. Perinatal mortality. In: 6B Perinatal Mortality & Stillbirth Rates. Toronto, ON: Association of Public Health Epidemiologists in Ontario; 2005 [cited 2012 Nov 19]. Available from: http://www.apheo.ca/index.php?pid=145#comments.

10 Matsuo, H. The health consequences of low birth weight: literature review and critique. UCL Working paper no. 23. Louvain-la-Neuvem, Belgium: l'Université catholique de Louvain; 2005. [cited 2009 Apr 14]. Available from: http://www.uclouvain.be/cps/ucl/doc/sped/documents/dt23.pdf.

11 Statistics Canada. Live birth, by birth weight (less than 2,500 grams) and sex, Canada, provinces and territories, annual (CANSIM Table 102-4005). Ottawa, ON: Statistics Canada, 2012.

12 Ministry of Children and Youth Services. Breaking the Cycle; Ontario's Poverty Reduction Strategy. Toronto, ON: Queen's Printer for Ontario; 2011 [cited 2012 Nov 20]. Available from: http://www.children.gov.on.ca/htdocs/English/breakingthecycle/report/2011/index.aspx.

[13] Public Health Agency of Canada. Canadian national report on immunization, 2006. Ottawa, ON: Public Health Agency of Canada; 2006 [cited 2012 Nov 20]. Available from: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/06vol32/32s3/2vaccine-eng.php.

[14] OECD. Immunisation: diphtheria, tetanus, pertussis (Health: Key tables from OECD, No. 42). Paris, FR: OECD; 2012 [cited 2012 Nov 30].

[15] Ministry of the Attorney General. Ontario's Tobacco Litigation: Frequently Asked Questions. Ottawa, ON: Queen's Printer for Ontario; 2012 [cited 2012 Nov 20]. Available from: http://www.attorneygeneral.jus.gov.on.ca/english/tobacco_litigation.asp.

[16] OECD. Tobacco Consumption (Health: Key tables from OECD, No. 21). Paris, FR: OECD; 2012 [cited 2012 Nov 30].

[17] Statistics Canada. Health indicator profile, annual estimates, by age group and sex, Canada, provinces, territories, health regions (2011 boundaries) and peer groups (CANSIM Table 105-0501). Ottawa, ON: Statistics Canada.

[18] Manuel DG, Perez R, Bennett C, Rosella L, Taljaard M, Roberts M, Sanderson R, Meltem T, Tanuseputro P, Manson H. Seven more years: The impact of smoking, alcohol, diet, physical activity and stress on health and life expectancy in Ontario. Toronto, ON: Public Health Ontario, Institute for Clinical Evaluative Sciences; 2012 [cited 2012 Nov 21]. Available from: http://www.oahpp.ca/resources/documents/reports/seven_more_years/PHO-ICES_SevenMoreYears_Report_web.pdf.

[19] Ministry of Health Promotion and Sport. Healthy weights, healthy lives: Annual report of the Chief Medical Officer of Health. Toronto, ON: Queen's Printer for Ontario; 2004 [cited 2012 Nov 21]. Available from: http://www.mhp.gov.on.ca/en/heal/healthy_weights.pdf.

[20] World Health Organization. Global Strategy on Diet, Physical Activity and Health. World Health Organization; 2012. Available from: http://www.who.it/deitphysicalactivity/childhood/eng/

[21] Alberta Health and Wellness; Office of the Chief Medical Officer of Health. You are what you eat – Preventing the marketing of unhealthy foods and beverages to Children. Edmonton, AB: Alberta Health; 2011 [cited 2012 Nov 22]. Available from: http://www.health.alberta.ca/documents/cmoh-marketing-unhealthy-foods-children-2011.pdf.

[22] Roberts KC, Shields M, de Groh M, Aziz A, Gilbert JA. Overweight and obesity in children and adolescents: results from the 2009 to 2011 Canadian Health Measures Survey. Health rep. 2012 Sep;23(3):37-41.

[23] Public Health Agency of Canada. Obesity in Canada – Prevalence among Adults. Ottawa, ON: Public Health Agency of Canada; 2011 [cited 2012 Nov 21]. Available from: http://www.phac-aspc.gc.ca/hp-ps/hl-mvs/oic-oac/adult-eng.php.

[24] Roberts K, Shields M, de Groh M, Aziz A, Gilbert JA. Overweight and obesity in children and adolescents: Results from the 2009 to 2011 Canadian Health Measures Survey. Health rep. 2012 [cited 2012 Nov 21]; 23(3):3-7. Available from: http://www.statcan.gc.ca/pub/82-003-x/2012003/article/11706-eng.pdf.

[25] Ratnasingham S, Cairney J, Rehm J, Manson H, Kurdyak PA. Opening Eyes, Opening Minds: The Ontario Burden of Mental Illness and Addictions Report. Toronto, ON: Public Health Ontario, Institute for Clinical Evaluative Sciences; 2012 [cited 2012 Nov 23]. Available from: http://www.oahpp.ca/resources/documents/reports/opening-eyes-mental-health/PHO-ICES%20Opening%20Eyes%20Opening%20Minds%20Report%20-%20Oct%202012%20final.pdf.

[26] Canadian Public Health Association [internet]. 12 Great Achievements. Ottawa, ON: Canadian Public Health Association; 2009 [cited 2012 Nov 21]. Available from: http://www.cpha.ca/en/programs/history/achievements.aspx.

[27] Alberta Gaming and Liquor Commission; Canadian Centre on Substance Abuse; Health Canada. Reducing Alcohol-related harm in Canada: Toward a culture of moderation. Edmonton, AB: Alberta Gaming and Liquor Commission; 2007. Available from: http://www.aglc.ca/pdf/social_responsibility/nationalalcoholstrategy.pdf.

[28] Centers for Disease Control and Prevention. Vital Signs: Binge Drinking Prevalence, Frequency, and Intensity Among Adults – United States. MMWR. 2010 [cited 2012 Nov 29];61(1):14-18. Available from: http://www.cdc.gov/mmwr/pdf/wk/mm6101.pdf.

[29] Ministry of Health and Long-Term Care. Oral Health – More Than Just Cavities: A Report by the Chief Medical Officer of Health. Toronto, ON: Queen's Printer for Ontario, 2012 [cited 2012 Nov 30]. Available from: http://www.health.gov.on.ca/en/common/ministry/publications/reports/oral_health/oral_health.pdf.

[30] Kwong JC, Crowcroft NS, Campitelli MA, Ratnasingham S, Daneman N, Deeks SL, Manuel DG. Ontario Burden of Infectious Disease Study Advisory Group; Ontario Burden of Infectious Disease Study. Toronto, ON: Ontario Agency for Health Protection and Promotion, Institute for Clinical Evaluative Sciences; 2010 [cited 2012 Nov 30]. Available from: http://www.oahpp.ca/resources/documents/reports/onboid/ONBoID_ICES_Report_ma18.pdf.

[31] Local Health Integration Network Collaborative. Integrated provincial falls prevention. Ottawa, ON: Queen's Printer for Ontario; 2011 [cited 2012 Nov 24]. Available from: http://c.ymcdn.com/sites/www.alphaweb.org/resource/collection/822EC60D-0D03-413E-B590-AFE1AA8620A9/LHIN_report_IntegratedProvincialFallsPreventionFrameworkToolkit_07-07-2011.pdf.

[32] Public Health Agency of Canada. The Safe Living Guide – A guide to home safety for seniors. Ottawa, ON: Public Health Agency of Canada; 2011 [cited 2012 Nov 23]. Available from: http://www.phac-aspc.gc.ca/seniors-aines/publications/public/injury-blessure/safelive-securite/pdfs/safelive-securite-eng.pdf.

[33] Scott, V., Wagar, L., & Elliott, S. (2010). Falls & Related Injuries among Older Canadians: Fall related Hospitalizations & Intervention Initiatives. Prepared on behalf of the Public Health Agency of Canada, Division of Aging and Seniors. Victoria, BC: Victoria Scott Consulting. Available from: http://www.hiphealth.ca/media/research_cemfia_phac_epi_and_inventor_20100610.pdf.

[34] McIntosh CN, Finès P, Wilkins R, Wolfson MC. Income disparities in health-adjusted life expectancy for Canadian adults, 1991 to 2001. Health rep. 2009 [cited 2012 Nov 21]; 20(4): 55-64. Available from: http://www.statcan.gc.ca/pub/82-003-x/2009004/article/11019-eng.htm.

[35] OECD. Life expectancy at birth, total population (Health: Key tables from OECD, No. 11). Paris, FR: OECD; 2012 [cited 2012 Nov 30].

[36] OECD. Life expectancy at birth, females (Health: Key tables from OECD, No. 9). Paris, FR: OECD; 2012 [cited 2012 Nov 30].

[37] OECD. Life expectancy at birth, males (Health: Key tables from OECD, No. 10). Paris, FR: OECD; 2012 [cited 2012 Nov 30].

Catalogue No. 017271 ISSN 1920-9304 (Online) February 2013 © Queen's Printer for Ontario 2013